



HAMMOND
MANUFACTURING™



Power



Chokes



Line



Audio



Tube Audio



Guitar Amp



Class 2



Pulse



Instrument

Transformers & Inductors

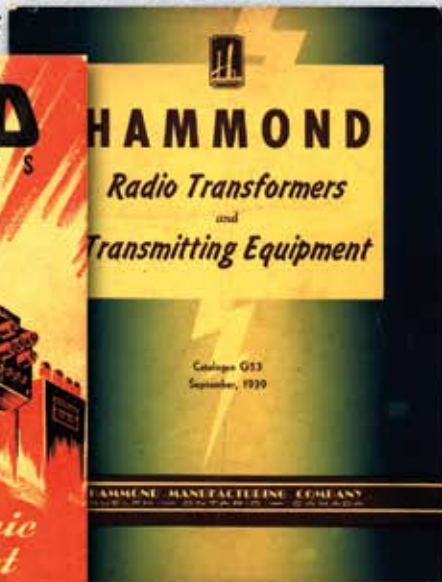
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1930's

1940's

1950's



1960's

A trusted name for over 80 years!

2000!

1970's



1980's

1990's



Quick Tab -Transformer Locator

Power: 2-44

Chokes: 45-54

Line: 55-68

Audio: 69-78

Tube Audio: 79-94

Guitar Amp: 95-98

Class 2: 99-102

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Instrument: 107-110

Power

Chokes

Line

Audio

Tube Audio

Guitar Amp

Class 2

Pulse

Instrument



Power



A.C. Secondary Voltage - Selection Guide

Power

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
266M2	117/234V 50/60 Hz.	1.25V	1.25 A	24
166F2	115V 60 Hz.	2.5V	0.25 A	21
166G2	115V 60 Hz.	2.5V	0.5 A	21
166J2	115V 60 Hz.	2.5V	1.0 A	21
166K2	115V 60 Hz.	2.5V	1.5 A	21
166L2	115V 60 Hz.	2.5V	2.5 A	21
166M2	115V 60 Hz.	2.5V	3.0 A	21
266M2	117/234V 50/60 Hz.	2.5V	3.0 A	24
166Q2	115V 60 Hz.	2.5V	6.0 A	21
266M5	117/234V 50/60 Hz.	2.5V	6.0 A	24
166S2	115V 60 Hz.	2.5V	10.0 A	21
165Z3	115V 60 Hz.	3V	50.0 A	19
266F6	117/234V 50/60 Hz.	3.15V	0.6 A	24
266GB6	117/234V 50/60 Hz.	3.15V	1.2 A	24
266J6	117/234V 50/60 Hz.	3.15V	2.0 A	24
266JB6	117/234V 50/60 Hz.	3.15V	2.4 A	24
266L6	117/234V 50/60 Hz.	3.15V	4.0 A	24
266M6	117/234V 50/60 Hz.	3.15V	6.0 A	24
266PA6	117/234V 50/60 Hz.	3.15V	12.0 A	24
266S6	117/234V 50/60 Hz.	3.15V	20.0 A	24
266V6B	117/234V 50/60 Hz.	3.15V	40.0 A	24
266G9	117/234V 50/60 Hz.	4.5V	1.0 A	24
161C10	115V 60 Hz.	5V	0.1 A	12
160D10	115/230V 50/60 Hz.	5V	0.18 A	12
161D10	115V 60 Hz.	5V	0.18 A	12
162D10	115/230V 50/60 Hz.	5V	0.22 A	14
164D10	115V 50/60 Hz.	5V	0.22 A	14
160F10	115/230V 50/60 Hz.	5V	0.24 A	12
161FA10	115V 60 Hz.	5V	0.24 A	12
166F5	115V 60 Hz.	5V	0.25 A	21
162E10	115/230V 50/60 Hz.	5V	0.5 A	14
183E10	115/230V 50/60 Hz.	5V	0.5 A	16
229E10	115/230V 50/60 Hz.	5V	0.5 A	17
164E10	115V 50/60 Hz.	5V	0.5 A	14
166G5	115V 60 Hz.	5V	0.5 A	21
160G10	115/230V 50/60 Hz.	5V	0.88 A	12
161GA10	115V 60 Hz.	5V	0.88 A	12
183F10	115/230V 50/60 Hz.	5V	1.0 A	16
166J5	115V 60 Hz.	5V	1.0 A	21
162F10	115/230V 50/60 Hz.	5V	1.2 A	14
229A10	115/230V 50/60 Hz.	5V	1.2 A	17
164F10	115V 50/60 Hz.	5V	1.2 A	14
160J10	115/230V 50/60 Hz.	5V	2.0 A	12
183G10	115/230V 50/60 Hz.	5V	2.0 A	16
161J10	115V 60 Hz.	5V	2.0 A	12
166L5	115V 60 Hz.	5V	2.0 A	21
162G10	115/230V 50/60 Hz.	5V	2.4 A	14
229B10	115/230V 50/60 Hz.	5V	2.4 A	17
164G10	115V 50/60 Hz.	5V	2.4 A	14
166MS	115V 60 Hz.	5V	3.0 A	21
167M5	115V 60 Hz.	5V	3.0 A	31
266M5	117/234V 50/60 Hz.	5V	3.0 A	24
162H10	115/230V 50/60 Hz.	5V	4.0 A	14
183H10	115/230V 50/60 Hz.	5V	4.0 A	16
164H10	115V 50/60 Hz.	5V	4.0 A	14
160H10	115/230V 50/60 Hz.	5V	4.8 A	12
229C10	115/230V 50/60 Hz.	5V	4.8 A	17
161H10	115V 60 Hz.	5V	4.8 A	12
185C10	115/230V 50/60 Hz.	5V	5.0 A	33
183J10	115/230V 50/60 Hz.	5V	6.0 A	16
167Q5	115V 60 Hz.	5V	6.0 A	31
162J10	115/230V 50/60 Hz.	5V	7.2 A	14
164J10	115V 50/60 Hz.	5V	7.2 A	14
166R5	115V 60 Hz.	5V	8.0 A	21
166RS	115V 60 Hz.	5V	8.0 A	21
167R5	115V 60 Hz.	5V	8.0 A	31
185D10	115/230V 50/60 Hz.	5V	8.6 A	33
229D10	115/230V 50/60 Hz.	5V	9.6 A	17
166S5	115V 60 Hz.	5V	10.0 A	21
167S5	115V 60 Hz.	5V	10.0 A	31
183K10	115/230V 50/60 Hz.	5V	11.2 A	16
166U5	115V 60 Hz.	5V	15.0 A	21
167U5	115V 60 Hz.	5V	15.0 A	31
185E10	115/230V 50/60 Hz.	5V	16.0 A	33
166V5	115V 60 Hz.	5V	20.0 A	21
167V5	115V 60 Hz.	5V	20.0 A	31
185F10	115/230V 50/60 Hz.	5V	26.0 A	33
165X5	115V 60 Hz.	5V	30.0 A	19
167X5	115V 60 Hz.	5V	30.0 A	31
185G10	115/230V 50/60 Hz.	5V	35.0 A	33
266E12	117/234V 50/60 Hz.	6V	0.3 A	24
266F12B	117/234V 50/60 Hz.	6V	0.6 A	24
266F12C	117/234V 50/60 Hz.	6V	0.7 A	24
266GD12	117/234V 50/60 Hz.	6V	1.4 A	24
266JA12	117/234V 50/60 Hz.	6V	2.0 A	24
266JB12	117/234V 50/60 Hz.	6V	2.4 A	24
182K6	117/234V 50/60 Hz.	6V	2.5 A	35
266LA12	117/234V 50/60 Hz.	6V	4.0 A	24
182L6	117/234V 50/60 Hz.	6V	5.0 A	35
266N12B	117/234V 50/60 Hz.	6V	8.0 A	24
182N6	117/234V 50/60 Hz.	6V	8.34 A	35
266PA12	117/234V 50/60 Hz.	6V	12.0 A	24
182Q6	117/234V 50/60 Hz.	6V	13.34 A	35
161C12	115V 60 Hz.	6.3V	0.08 A	12
166C12	115V 60 Hz.	6.3V	0.1 A	21
160D12	115/230V 50/60 Hz.	6.3V	0.14 A	12
161D12	115V 60 Hz.	6.3V	0.14 A	12
166E6	115V 60 Hz.	6.3V	0.15 A	21
162D12	115/230V 50/60 Hz.	6.3V	0.18 A	14
164D12	115V 50/60 Hz.	6.3V	0.18 A	14

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
160F12	115/230V 50/60 Hz.	6.3V	0.2 A	12
161FA12	115V 60 Hz.	6.3V	0.2 A	12
166F6	115V 60 Hz.	6.3V	0.3 A	21
266F6	117/234V 50/60 Hz.	6.3V	0.3 A	24
162E12	115/230V 50/60 Hz.	6.3V	0.4 A	14
183E12	115/230V 50/60 Hz.	6.3V	0.4 A	16
229E12	115/230V 50/60 Hz.	6.3V	0.4 A	17
164E12	115V 50/60 Hz.	6.3V	0.4 A	14
166G6	115V 60 Hz.	6.3V	0.6 A	21
266GB6	117/234V 50/60 Hz.	6.3V	0.6 A	24
266F12	117/234V 50/60 Hz.	6.3V	0.6 A	24
160G12	115/230V 50/60 Hz.	6.3V	0.7 A	12
161GA12	115V 60 Hz.	6.3V	0.7 A	12
183F12	115/230V 50/60 Hz.	6.3V	0.8 A	16
229A12	115/230V 50/60 Hz.	6.3V	0.9 A	17
162F12	115/230V 50/60 Hz.	6.3V	1.0 A	14
164F12	115V 50/60 Hz.	6.3V	1.0 A	14
166J6	115V 60 Hz.	6.3V	1.0 A	21
266J6	117/234V 50/60 Hz.	6.3V	1.0 A	24
266G12	117/234V 50/60 Hz.	6.3V	1.0 A	24
166K6	115V 60 Hz.	6.3V	1.2 A	21
266JB6	117/234V 50/60 Hz.	6.3V	1.2 A	24
166K6B	117V 50/60 Hz.	6.3V	1.2 A	21
160K12	115/230V 50/60 Hz.	6.3V	1.6 A	12
183G12	115/230V 50/60 Hz.	6.3V	1.6 A	16
161K12	115V 60 Hz.	6.3V	1.6 A	12
229B12	115/230V 50/60 Hz.	6.3V	1.8 A	17
162G12	115/230V 50/60 Hz.	6.3V	2.0 A	14
164G12	115V 50/60 Hz.	6.3V	2.0 A	14
166L6	115V 60 Hz.	6.3V	2.0 A	21
266L6	117/234V 50/60 Hz.	6.3V	2.0 A	24
266J12	117/234V 50/60 Hz.	6.3V	2.0 A	24
266M6	117/234V 50/60 Hz.	6.3V	3.0 A	24
266K12	117/234V 50/60 Hz.	6.3V	3.0 A	24
166M6	117V 50/60 Hz.	6.3V	3.0 A	21
162H12	115/230V 50/60 Hz.	6.3V	3.2 A	14
183H12	115/230V 50/60 Hz.	6.3V	3.2 A	16
164H12	115V 50/60 Hz.	6.3V	3.2 A	14
229C12	115/230V 50/60 Hz.	6.3V	3.8 A	17
160H12	115/230V 50/60 Hz.	6.3V	4.0 A	12
185C12	115/230V 50/60 Hz.	6.3V	4.0 A	33
161H12	115V 60 Hz.	6.3V	4.0 A	12
166N6	115V 60 Hz.	6.3V	4.0 A	21
167N6	115V 60 Hz.	6.3V	4.0 A	31
266L12B	117/234V 50/60 Hz.	6.3V	4.0 A	24
183J12	115/230V 50/60 Hz.	6.3V	4.8 A	16
266L12	117/234V 50/60 Hz.	6.3V	5.0 A	24
162J12	115/230V 50/60 Hz.	6.3V	5.7 A	14
164J12	115V 50/60 Hz.	6.3V	5.7 A	14
166Q6	115V 60 Hz.	6.3V	6.0 A	21
167Q6	115V 60 Hz.	6.3V	6.0 A	31
266PA6	117/234V 50/60 Hz.	6.3V	6.0 A	24
266M12	117/234V 50/60 Hz.	6.3V	6.0 A	24
185D12	115/230V 50/60 Hz.	6.3V	6.8 A	33
229D12	115/230V 50/60 Hz.	6.3V	7.6 A	17
167R6	115V 60 Hz.	6.3V	8.0 A	31
266N12	117/234V 50/60 Hz.	6.3V	8.0 A	24
183K12	115/230V 50/60 Hz.	6.3V	8.8 A	16
166S6	115V 60 Hz.	6.3V	10.0 A	21
167S6	115V 60 Hz.	6.3V	10.0 A	31
266S6	117/234V 50/60 Hz.	6.3V	10.0 A	24
167T6	115V 60 Hz.	6.3V	12.0 A	31
185E12	115/230V 50/60 Hz.	6.3V	12.6 A	33
167U6	115V 60 Hz.	6.3V	16.0 A	31
266V6B	117/234V 50/60 Hz.	6.3V	20.0 A	24
185F12	115/230V 50/60 Hz.	6.3V	20.6 A	33
185G12	115/230V 50/60 Hz.	6.3V	28.0 A	33
166G7	115V 60 Hz.	7V	0.7 A	21
266G14	117/234V 50/60 Hz.	7V	1.0 A	24
266J14	117/234V 50/60 Hz.	7V	2.0 A	24
266L14	117/234V 50/60 Hz.	7V	4.0 A	24
266PA14	117/234V 50/60 Hz.	7V	12.0 A	24
166U7	115V 60 Hz.	7.5V	15.0 A	21
167U7	115V 60 Hz.	7.5V	15.0 A	31
165V7	115V 60 Hz.	7.5V	21.0 A	19
167V7	115V 60 Hz.	7.5V	21.0 A	31
161C16	115V 60 Hz.	8V	0.0625 A	12
160D16	115/230V 50/60 Hz.	8V	0.11 A	12
161D16	115V 60 Hz.	8V	0.11 A	12
162D16	115/230V 50/60 Hz.	8V	0.14 A	14
164D16	115V 50/60 Hz.	8V	0.14 A	14
160E16	115/230V 50/60 Hz.	8V	0.15 A	12
161EA16	115V 60 Hz.	8V	0.15 A	12
162E16	115/230V 50/60 Hz.	8V	0.3 A	14
183E16	115/230V 50/60 Hz.	8V	0.3 A	16
229E16	115/230V 50/60 Hz.	8V	0.3 A	17
164E16	115V 50/60 Hz.	8V	0.3 A	14
166G8	115V 60 Hz.	8V	0.5 A	21
160F16	115/230V 50/60 Hz.	8V	0.52 A	12
161FA16	115V 60 Hz.	8V	0.52 A	12
183F16	115/230V 50/60 Hz.	8V	0.62 A	16
229A16	115/230V 50/60 Hz.	8V	0.7 A	17
162F16	115/230V 50/60 Hz.	8V	0.8 A	14
164F16	115V 50/60 Hz.	8V	0.8 A	14
266G16	117/234V 50/60 Hz.	8V	1.0 A	24
183G16	115/230V 50/60 Hz.	8V	1.25 A	16
160G16	115/230V 50/60 Hz.	8V	1.28 A	12
161G16	115V 60 Hz.	8V	1.28 A	12
229B16	115/230V 50/60 Hz.	8V	1.4 A	17
162G16	115/230V 50/60 Hz.	8V	1.6 A	14

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Cheektowaga, NY (71

A.C. Secondary Voltage - Selection Guide

Power

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
164G16	115V 50/60 Hz.	8V	1.6 A	14
266J16	117/234V 50/60 Hz.	8V	2.0 A	24
162H16	115/230V 50/60 Hz.	8V	2.5 A	14
183H16	115/230V 50/60 Hz.	8V	2.5 A	16
164H16	115V 50/60 Hz.	8V	2.5 A	14
160H16	115/230V 50/60 Hz.	8V	3.0 A	12
229C16	115/230V 50/60 Hz.	8V	3.0 A	17
161H16	115V 60 Hz.	8V	3.0 A	12
185C16	115/230V 50/60 Hz.	8V	3.2 A	33
183J16	115/230V 50/60 Hz.	8V	3.8 A	16
266L16	117/234V 50/60 Hz.	8V	4.4 A	24
162J16	115/230V 50/60 Hz.	8V	4.5 A	14
164J16	115V 50/60 Hz.	8V	4.5 A	14
185D16	115/230V 50/60 Hz.	8V	5.4 A	33
229D16	115/230V 50/60 Hz.	8V	6.0 A	17
266M16	117/234V 50/60 Hz.	8V	6.0 A	24
183K16	115/230V 50/60 Hz.	8V	7.0 A	16
185E16	115/230V 50/60 Hz.	8V	10.0 A	33
185F16	115/230V 50/60 Hz.	8V	16.2 A	33
185G16	115/230V 50/60 Hz.	8V	22.0 A	33
166J8	115V 60 Hz.	8.5V C.T.	1.0 A	21
166L8	115V 60 Hz.	8.5V C.T.	2.0 A	21
166M8	115V 60 Hz.	8.5V C.T.	3.0 A	21
166N8	115V 60 Hz.	8.5V C.T.	4.0 A	21
166B18	115V 60 Hz.	9V	0.06 A	21
166G9	115V 60 Hz.	9V C.T.	0.5 A	21
266G9	117/234V 50/60 Hz.	9V C.T.	0.5 A	24
182H9	117/234V 50/60 Hz.	9V	1.66 A	35
266K18	117/234V 50/60 Hz.	9V	3.0 A	24
182K9	117/234V 50/60 Hz.	9V	3.34 A	35
182M9	117/234V 50/60 Hz.	9V	5.56 A	35
266M18	117/234V 50/60 Hz.	9V	6.0 A	24
182N9	117/234V 50/60 Hz.	9V	8.88 A	35
266P18	117/234V 50/60 Hz.	9V	10.0 A	24
182Q9	117/234V 50/60 Hz.	9V	13.34 A	35
161C10	115V 60 Hz.	10V C.T.	0.05 A	12
160D10	115/230V 50/60 Hz.	10V C.T.	0.09 A	12
160D20	115/230V 50/60 Hz.	10V	0.09 A	12
161D10	115V 60 Hz.	10V C.T.	0.09 A	12
161D20	115V 60 Hz.	10V	0.09 A	12
226D	115V 60 Hz.	10V	0.1 A	18
162D10	115/230V 50/60 Hz.	10V C.T.	0.11 A	14
162D20	115/230V 50/60 Hz.	10V	0.11 A	14
164D10	115V 50/60 Hz.	10V C.T.	0.11 A	14
164D20	115V 50/60 Hz.	10V	0.11 A	14
160F10	115/230V 50/60 Hz.	10V C.T.	0.12 A	12
160E20	115/230V 50/60 Hz.	10V	0.12 A	12
161FA10	115V 60 Hz.	10V C.T.	0.12 A	12
161EA20	115V 60 Hz.	10V	0.12 A	12
162E20	115/230V 50/60 Hz.	10V	0.24 A	14
183E20	115/230V 50/60 Hz.	10V	0.24 A	16
164E20	115V 50/60 Hz.	10V	0.24 A	14
162E10	115/230V 50/60 Hz.	10V C.T.	0.25 A	14
183E10	115/230V 50/60 Hz.	10V C.T.	0.25 A	16
229E10	115/230V 50/60 Hz.	10V C.T.	0.25 A	17
229E20	115/230V 50/60 Hz.	10V	0.25 A	17
164E10	115V 50/60 Hz.	10V C.T.	0.25 A	14
187A10	115V 50/60 Hz.	10V C.T.	0.25 A	29
166F10	115V 60 Hz.	10V C.T.	0.3 A	21
160G10	115/230V 50/60 Hz.	10V C.T.	0.44 A	12
160F20	115/230V 50/60 Hz.	10V	0.44 A	12
161GA10	115V 60 Hz.	10V C.T.	0.44 A	12
161FA20	115V 60 Hz.	10V	0.44 A	12
183F10	115/230V 50/60 Hz.	10V C.T.	0.5 A	16
183F20	115/230V 50/60 Hz.	10V	0.5 A	16
227D	115V 60 Hz.	10V	0.5 A	18
166G10	115V 60 Hz.	10V C.T.	0.5 A	21
162F10	115/230V 50/60 Hz.	10V C.T.	0.6 A	14
162F20	115/230V 50/60 Hz.	10V	0.6 A	14
229A10	115/230V 50/60 Hz.	10V C.T.	0.6 A	17
229A20	115/230V 50/60 Hz.	10V	0.6 A	17
186B10	115/230V 50/60 Hz.	10V C.T.	0.6 A	29
164F10	115V 50/60 Hz.	10V C.T.	0.6 A	14
164F20	115V 50/60 Hz.	10V	0.6 A	14
187B10	115V 50/60 Hz.	10V C.T.	0.6 A	29
266F20	117/234V 50/60 Hz.	10V	0.6 A	24
160J10	115/230V 50/60 Hz.	10V C.T.	1.0 A	12
160G20	115/230V 50/60 Hz.	10V	1.0 A	12
183G10	115/230V 50/60 Hz.	10V C.T.	1.0 A	16
183G20	115/230V 50/60 Hz.	10V	1.0 A	16
161J10	115V 60 Hz.	10V C.T.	1.0 A	12
161G20	115V 60 Hz.	10V	1.0 A	12
228D	115V 60 Hz.	10V	1.0 A	18
166J10	115V 60 Hz.	10V C.T.	1.0 A	21
266G20	117/234V 50/60 Hz.	10V	1.0 A	24
162G10	115/230V 50/60 Hz.	10V C.T.	1.2 A	14
162G20	115/230V 50/60 Hz.	10V	1.2 A	14
229B10	115/230V 50/60 Hz.	10V C.T.	1.2 A	17
229B20	115/230V 50/60 Hz.	10V	1.2 A	17
186C10	115/230V 50/60 Hz.	10V C.T.	1.2 A	29
164G10	115V 50/60 Hz.	10V C.T.	1.2 A	14
164G20	115V 50/60 Hz.	10V	1.2 A	14
187C10	115V 50/60 Hz.	10V C.T.	1.2 A	29
226N	115 V 400 Hz.	10V	2.0 A	18
162H10	115/230V 50/60 Hz.	10V C.T.	2.0 A	14
162H20	115/230V 50/60 Hz.	10V	2.0 A	14
183H10	115/230V 50/60 Hz.	10V C.T.	2.0 A	16
183H20	115/230V 50/60 Hz.	10V	2.0 A	16
164H10	115V 50/60 Hz.	10V C.T.	2.0 A	14
164H20	115V 50/60 Hz.	10V	2.0 A	14

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
166L10	115V 60 Hz.	10V C.T.	2.0 A	21
160H10	115/230V 50/60 Hz.	10V C.T.	2.4 A	12
160H20	115/230V 50/60 Hz.	10V	2.4 A	12
229C10	115/230V 50/60 Hz.	10V C.T.	2.4 A	17
229C20	115/230V 50/60 Hz.	10V	2.4 A	17
161H10	115V 60 Hz.	10V C.T.	2.4 A	12
161H20	115V 60 Hz.	10V	2.4 A	12
185C10	115/230V 50/60 Hz.	10V C.T.	2.5 A	33
185C20	115/230V 50/60 Hz.	10V	2.5 A	33
183J10	115/230V 50/60 Hz.	10V C.T.	3.0 A	16
183J20	115/230V 50/60 Hz.	10V	3.0 A	16
186D10	115/230V 50/60 Hz.	10V C.T.	3.0 A	29
187D10	115V 50/60 Hz.	10V C.T.	3.0 A	29
166M10	115V 60 Hz.	10V C.T.	3.0 A	21
162J10	115/230V 50/60 Hz.	10V C.T.	3.6 A	14
162J20	115/230V 50/60 Hz.	10V	3.6 A	14
164J10	115V 50/60 Hz.	10V C.T.	3.6 A	14
164J20	115V 50/60 Hz.	10V	3.6 A	14
227N	115 V 400 Hz.	10V	4.0 A	18
166N10	115V 60 Hz.	10V C.T.	4.0 A	21
167N10	115V 60 Hz.	10V C.T.	4.0 A	31
266L20	117/234V 50/60 Hz.	10V	4.0 A	24
185D10	115/230V 50/60 Hz.	10V C.T.	4.3 A	33
185D20	115/230V 50/60 Hz.	10V	4.4 A	33
229D10	115/230V 50/60 Hz.	10V C.T.	4.8 A	17
229D20	115/230V 50/60 Hz.	10V	4.8 A	17
186E10	115/230V 50/60 Hz.	10V C.T.	5.0 A	29
187E10	115V 50/60 Hz.	10V C.T.	5.0 A	29
166P10	115V 60 Hz.	10V C.T.	5.0 A	21
167P10	115V 60 Hz.	10V C.T.	5.0 A	31
183K10	115/230V 50/60 Hz.	10V C.T.	5.6 A	16
183K20	115/230V 50/60 Hz.	10V	5.6 A	16
266M20	117/234V 50/60 Hz.	10V	6.0 A	24
185E10	115/230V 50/60 Hz.	10V C.T.	8.0 A	33
185E20	115/230V 50/60 Hz.	10V	8.0 A	33
166R10	115V 60 Hz.	10V C.T.	8.0 A	21
167R10	115V 60 Hz.	10V C.T.	8.0 A	31
186F10	115/230V 50/60 Hz.	10V C.T.	10.0 A	29
187F10	115V 50/60 Hz.	10V C.T.	10.0 A	29
166S10	115V 60 Hz.	10V C.T.	10.0 A	21
167S10	115V 60 Hz.	10V C.T.	10.0 A	31
185F10	115/230V 50/60 Hz.	10V C.T.	13.0 A	33
185F20	115/230V 50/60 Hz.	10V	13.0 A	33
185G10	115/230V 50/60 Hz.	10V C.T.	17.5 A	33
185G20	115/230V 50/60 Hz.	10V	17.6 A	33
165V10	115V 60 Hz.	10V C.T.	20.0 A	19
166P11	115V 60 Hz.	11V C.T.	5.0 A	21
167P11	115V 60 Hz.	11V C.T.	5.0 A	31
166S11	115V 60 Hz.	11V C.T.	10.0 A	21
167S11	115V 60 Hz.	11V C.T.	10.0 A	31
165U11	115V 60 Hz.	11V C.T.	15.0 A	19
167U11	115V 60 Hz.	11V C.T.	15.0 A	31
160D24	115/230V 50/60 Hz.	12V	0.07 A	12
161D24	115V 60 Hz.	12V	0.07 A	12
162D24	115/230V 50/60 Hz.	12V	0.09 A	14
164D24	115V 50/60 Hz.	12V	0.09 A	14
160E24	115/230V 50/60 Hz.	12V	0.1 A	12
161E24	115V 60 Hz.	12V	0.1 A	12
166E12	115V 60 Hz.	12V C.T.	0.15 A	21
266E12	117/234V 50/60 Hz.	12V C.T.	0.15 A	24
266C24	117/234V 50/60 Hz.	12V	0.17 A	24
162E24	115/230V 50/60 Hz.	12V	0.2 A	14
183E24	115/230V 50/60 Hz.	12V	0.2 A	16
229E24	115/230V 50/60 Hz.	12V	0.2 A	17
164E24	115V 50/60 Hz.	12V	0.2 A	14
166F12B	115V 60 Hz.	12V C.T.	0.3 A	21
266F12B	117/234V 50/60 Hz.	12V C.T.	0.3 A	24
166F12C	115V 60 Hz.	12V C.T.	0.35 A	21
266F12C	117/234V 50/60 Hz.	12V C.T.	0.35 A	24
160F24	115/230V 50/60 Hz.	12V	0.36 A	12
161F24	115V 60 Hz.	12V	0.36 A	12
266EA24	117/234V 50/60 Hz.	12V	0.4 A	24
183F24	115/230V 50/60 Hz.	12V	0.42 A	16
162F24	115/230V 50/60 Hz.	12V	0.5 A	14
229A24	115/230V 50/60 Hz.	12V	0.5 A	17
164F24	115V 50/60 Hz.	12V	0.5 A	14
266F24	117/234V 50/60 Hz.	12V	0.6 A	24
266GD12	117/234V 50/60 Hz.	12V C.T.	0.7 A	24
166GD12	117V 50/60 Hz.	12V	0.7 A	21
266FB24	117/234V 50/60 Hz.	12V	0.8 A	24
183G24	115/230V 50/60 Hz.	12V	0.8 A	16
160G24	115/230V 50/60 Hz.	12V	0.9 A	12
161G24	115V 60 Hz.	12V	0.9 A	12
162G24	115/230V 50/60 Hz.	12V	1.0 A	14
229B24	115/230V 50/60 Hz.	12V	1.0 A	17
164G24	115V 50/60 Hz.	12V	1.0 A	14
166JA12	115V 60 Hz.	12V C.T.	1.0 A	21
266JA12	117/234V 50/60 Hz.	12V C.T.	1.0 A	24
266G24	117/234V 50/60 Hz.	12V	1.0 A	24
166K12	115V 60 Hz.	12V C.T.	1.2 A	21
266JB12	117/234V 50/60 Hz.	12V C.T.	1.2 A	24
166JB12	117V 50/60 Hz.	12V C.T.	1.2 A	21
182K6	117/234V 50/60 Hz.	12V C.T.	1.25 A	35
182G12	117/234V 50/60 Hz.	12V	1.26 A	35
266GD24	117/234V 50/60 Hz.	12V	1.4 A	24
162H24	115/230V 50/60 Hz.	12V	1.6 A	14
164H24	115V 50/60 Hz.	12V	1.6 A	14
183H24	115/230V 50/60 Hz.	12V	1.66 A	16
160H24	115/230V 50/60 Hz.	12V	2.0 A	12
229C24	115/230V 50/60 Hz.	12V	2.0 A	17

CANADA

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		VAC	Current	
185C24	115/230V 50/60 Hz.	12V	2.0 A	33
161H24	115V 60 Hz.	12V	2.0 A	12
166LA12	115V 60 Hz.	12V C.T.	2.0 A	21
266LA12	117/234V 50/60 Hz.	12V C.T.	2.0 A	24
266J24	117/234V 50/60 Hz.	12V	2.0 A	24
183J24	115/230V 50/60 Hz.	12V	2.5 A	16
182L6	117/234V 50/60 Hz.	12V C.T.	2.5 A	35
182K12	117/234V 50/60 Hz.	12V	2.5 A	35
162J24	115/230V 50/60 Hz.	12V	3.0 A	14
164J24	115V 50/60 Hz.	12V	3.0 A	14
185D24	115/230V 50/60 Hz.	12V	3.6 A	33
229D24	115/230V 50/60 Hz.	12V	4.0 A	17
266N12B	117/234V 50/60 Hz.	12V C.T.	4.0 A	24
266L24	117/234V 50/60 Hz.	12V	4.0 A	24
166N12B	117V 50/60 Hz.	12V C.T.	4.0 A	21
182L12	117/234V 50/60 Hz.	12V	4.16 A	35
182N6	117/234V 50/60 Hz.	12V C.T.	4.17 A	35
183K24	115/230V 50/60 Hz.	12V	4.66 A	16
266PA12	117/234V 50/60 Hz.	12V C.T.	6.0 A	24
266M24	117/234V 50/60 Hz.	12V	6.0 A	24
185E24	115/230V 50/60 Hz.	12V	6.6 A	33
182M12	117/234V 50/60 Hz.	12V	6.66 A	35
182Q6	117/234V 50/60 Hz.	12V C.T.	6.67 A	35
266N24	117/234V 50/60 Hz.	12V	8.0 A	24
266P24	117/234V 50/60 Hz.	12V	10.0 A	24
182P12	117/234V 50/60 Hz.	12V	10.0 A	35
185F24	115/230V 50/60 Hz.	12V	10.8 A	33
266PA24	117/234V 50/60 Hz.	12V	12.0 A	25
182Q12	117/234V 50/60 Hz.	12V	13.34 A	35
185G24	115/230V 50/60 Hz.	12V	14.6 A	33
266R24	117/234V 50/60 Hz.	12V	16.0 A	25
182S12	117/234V 50/60 Hz.	12V	18.76 A	35
266S24	117/234V 50/60 Hz.	12V	20.0 A	25
182T12	117/234V 50/60 Hz.	12V	25.0 A	35
266M25	117/234V 50/60 Hz.	12.5V	6.0 A	25
161C12	115V 60 Hz.	12.6V C.T.	0.04 A	12
166C12	115V 60 Hz.	12.6V C.T.	0.05 A	21
166A24	115V 60 Hz.	12.6V	0.05 A	21
160D12	115/230V 50/60 Hz.	12.6V C.T.	0.07 A	12
161D12	115V 60 Hz.	12.6V C.T.	0.07 A	12
162D12	115/230V 50/60 Hz.	12.6V C.T.	0.09 A	14
164D12	115V 50/60 Hz.	12.6V C.T.	0.09 A	14
160F12	115/230V 50/60 Hz.	12.6V C.T.	0.1 A	12
161FA12	115V 60 Hz.	12.6V C.T.	0.1 A	12
187A12	115V 50/60 Hz.	12.6V C.T.	0.19 A	29
162E12	115/230V 50/60 Hz.	12.6V C.T.	0.2 A	14
183E12	115/230V 50/60 Hz.	12.6V C.T.	0.2 A	16
229E12	115/230V 50/60 Hz.	12.6V C.T.	0.2 A	17
164E12	115V 50/60 Hz.	12.6V C.T.	0.2 A	14
166F12	115V 60 Hz.	12.6V C.T.	0.3 A	21
266F12	117/234V 50/60 Hz.	12.6V C.T.	0.3 A	24
160G12	115/230V 50/60 Hz.	12.6V C.T.	0.35 A	12
161GA12	115V 60 Hz.	12.6V C.T.	0.35 A	12
183F12	115/230V 50/60 Hz.	12.6V C.T.	0.4 A	16
229A12	115/230V 50/60 Hz.	12.6V C.T.	0.45 A	17
162F12	115/230V 50/60 Hz.	12.6V C.T.	0.5 A	14
186B12	115/230V 50/60 Hz.	12.6V C.T.	0.5 A	29
164F12	115V 50/60 Hz.	12.6V C.T.	0.5 A	14
187B12	115V 50/60 Hz.	12.6V C.T.	0.5 A	29
166G12	115V 60 Hz.	12.6V C.T.	0.5 A	21
266G12	117/234V 50/60 Hz.	12.6V C.T.	0.5 A	24
160K12	115/230V 50/60 Hz.	12.6V C.T.	0.8 A	12
183G12	115/230V 50/60 Hz.	12.6V C.T.	0.8 A	16
161K12	115V 60 Hz.	12.6V C.T.	0.8 A	12
229B12	115/230V 50/60 Hz.	12.6V C.T.	0.9 A	17
162G12	115/230V 50/60 Hz.	12.6V C.T.	1.0 A	14
186C12	115/230V 50/60 Hz.	12.6V C.T.	1.0 A	29
164G12	115V 50/60 Hz.	12.6V C.T.	1.0 A	14
187C12	115V 50/60 Hz.	12.6V C.T.	1.0 A	29
166J12	115V 60 Hz.	12.6V C.T.	1.0 A	21
266J12	117/234V 50/60 Hz.	12.6V C.T.	1.0 A	24
266K12	117/234V 50/60 Hz.	12.6V C.T.	1.5 A	24
166K12B	117V 50/60 Hz.	12.6V C.T.	1.5 A	21
162H12	115/230V 50/60 Hz.	12.6V C.T.	1.6 A	14
183H12	115/230V 50/60 Hz.	12.6V C.T.	1.6 A	16
164H12	115V 50/60 Hz.	12.6V C.T.	1.6 A	14
229C12	115/230V 50/60 Hz.	12.6V C.T.	1.9 A	17
160H12	115/230V 50/60 Hz.	12.6V C.T.	2.0 A	12
185C12	115/230V 50/60 Hz.	12.6V C.T.	2.0 A	33
161H12	115V 60 Hz.	12.6V C.T.	2.0 A	12
266L12B	117/234V 50/60 Hz.	12.6V C.T.	2.0 A	24
266J25	117/234V 50/60 Hz.	12.6V	2.0 A	25
166L12B	117V 50/60 Hz.	12.6V C.T.	2.0 A	21
183J12	115/230V 50/60 Hz.	12.6V C.T.	2.4 A	16
186D12	115/230V 50/60 Hz.	12.6V C.T.	2.5 A	29
187D12	115V 50/60 Hz.	12.6V C.T.	2.5 A	29
166L12	115V 60 Hz.	12.6V C.T.	2.5 A	21
167L12	115V 60 Hz.	12.6V C.T.	2.5 A	31
266L12	117/234V 50/60 Hz.	12.6V C.T.	2.5 A	24
162J12	115/230V 50/60 Hz.	12.6V C.T.	2.85 A	14
164J12	115V 50/60 Hz.	12.6V C.T.	2.85 A	14
266M12	117/234V 50/60 Hz.	12.6V C.T.	3.0 A	24
166M12	117V 50/60 Hz.	12.6V C.T.	3.0 A	21
185D12	115/230V 50/60 Hz.	12.6V C.T.	3.4 A	33
229D12	115/230V 50/60 Hz.	12.6V C.T.	3.8 A	17
186E12	115/230V 50/60 Hz.	12.6V C.T.	4.0 A	29
187E12	115V 50/60 Hz.	12.6V C.T.	4.0 A	29
166N12	115V 60 Hz.	12.6V C.T.	4.0 A	21
166N12	115V 60 Hz.	12.6V C.T.	4.0 A	31
266N12	117/234V 50/60 Hz.	12.6V C.T.	4.0 A	24

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
266L25	117/234V 50/60 Hz.	12.6V	4.0 A	25
183K12	115/230V 50/60 Hz.	12.6V C.T.	4.4 A	16
266LH25	117/234V 50/60 Hz.	12.6V	5.6 A	25
166Q12	115V 60 Hz.	12.6V C.T.	6.0 A	21
167Q12	115V 60 Hz.	12.6V C.T.	6.0 A	31
185E12	115/230V 50/60 Hz.	12.6V C.T.	6.3 A	33
186F12	115/230V 50/60 Hz.	12.6V C.T.	8.0 A	29
187F12	115V 50/60 Hz.	12.6V C.T.	8.0 A	29
166R12	115V 60 Hz.	12.6V C.T.	8.0 A	21
167R12	115V 60 Hz.	12.6V C.T.	8.0 A	31
165S12	115V 60 Hz.	12.6V C.T.	10.0 A	19
167S12	115V 60 Hz.	12.6V C.T.	10.0 A	31
185F12	115/230V 50/60 Hz.	12.6V C.T.	10.3 A	33
185G12	115/230V 50/60 Hz.	12.6V C.T.	14.0 A	33
165V12	115V 60 Hz.	12.6V C.T.	20.0 A	19
167V12	115V 60 Hz.	12.6V C.T.	20.0 A	31
226P	115 V 400 Hz.	13V	1.54 A	18
227P	115 V 400 Hz.	13V	3.08 A	18
266J26	117/234V 50/60 Hz.	13.4V	2.0 A	25
160D28	115/230V 50/60 Hz.	14V	0.06 A	12
161D28	115V 60 Hz.	14V	0.06 A	12
160E28	115/230V 50/60 Hz.	14V	0.08 A	12
162D28	115/230V 50/60 Hz.	14V	0.08 A	14
164D28	115V 50/60 Hz.	14V	0.08 A	14
161E28	115V 60 Hz.	14V	0.08 A	12
166E14	115V 60 Hz.	14V C.T.	0.15 A	21
162E28	115/230V 50/60 Hz.	14V	0.17 A	14
164E28	115V 50/60 Hz.	14V	0.17 A	14
183E28	115/230V 50/60 Hz.	14V	0.18 A	16
160F28	115/230V 50/60 Hz.	14V	0.32 A	12
161F28	115V 60 Hz.	14V	0.32 A	12
183F28	115/230V 50/60 Hz.	14V	0.36 A	16
162F28	115/230V 50/60 Hz.	14V	0.4 A	14
164F28	115V 50/60 Hz.	14V	0.4 A	14
166G14	115V 60 Hz.	14V C.T.	0.5 A	21
266G14	117/234V 50/60 Hz.	14V C.T.	0.5 A	24
160G28	115/230V 50/60 Hz.	14V	0.72 A	12
183G28	115/230V 50/60 Hz.	14V	0.72 A	16
161G28	115V 60 Hz.	14V	0.72 A	12
162G28	115/230V 50/60 Hz.	14V	0.84 A	14
164G28	115V 50/60 Hz.	14V	0.84 A	14
166J14	115V 60 Hz.	14V C.T.	1.0 A	21
266J14	117/234V 50/60 Hz.	14V C.T.	1.0 A	24
162H28	115/230V 50/60 Hz.	14V	1.4 A	14
164H28	115V 50/60 Hz.	14V	1.4 A	14
183H28	115/230V 50/60 Hz.	14V	1.44 A	16
160H28	115/230V 50/60 Hz.	14V	1.6 A	12
161H28	115V 60 Hz.	14V	1.6 A	12
185C28	115/230V 50/60 Hz.	14V	1.86 A	33
166L14	115V 60 Hz.	14V C.T.	2.0 A	21
266L14	117/234V 50/60 Hz.	14V C.T.	2.0 A	24
183J28	115/230V 50/60 Hz.	14V	2.12 A	16
162J28	115/230V 50/60 Hz.	14V	2.6 A	14
164J28	115V 50/60 Hz.	14V	2.6 A	14
185D28	115/230V 50/60 Hz.	14V	3.0 A	33
183K28	115/230V 50/60 Hz.	14V	4.0 A	16
167N14	115V 60 Hz.	14V C.T.	4.0 A	31
266L28	117/234V 50/60 Hz.	14V	4.0 A	25
185E28	115/230V 50/60 Hz.	14V	5.6 A	33
166Q14	115V 60 Hz.	14V C.T.	6.0 A	21
167Q14	115V 60 Hz.	14V C.T.	6.0 A	31
266PA14	117/234V 50/60 Hz.	14V C.T.	6.0 A	24
185F28	115/230V 50/60 Hz.	14V	9.2 A	33
185G28	115/230V 50/60 Hz.	14V	12.5 A	33
226F	115V 60 Hz.	15V	0.067 A	18
229E30	115/230V 50/60 Hz.	15V	0.17 A	17
227F	115V 60 Hz.	15V	0.34 A	18
229A30	115/230V 50/60 Hz.	15V	0.4 A	17
228F	115V 60 Hz.	15V	0.67 A	18
229B30	115/230V 50/60 Hz.	15V	0.8 A	17
182G15	117/234V 50/60 Hz.	15V	1.0 A	35
226R	115 V 400 Hz.	15V	1.33 A	18
229C30	115/230V 50/60 Hz.	15V	1.6 A	17
182J15	117/234V 50/60 Hz.	15V	2.0 A	35
227R	115 V 400 Hz.	15V	2.66 A	18
229D30	115/230V 50/60 Hz.	15V	3.2 A	17
182K15	117/234V 50/60 Hz.	15V	3.34 A	35
182M15	117/234V 50/60 Hz.	15V	5.34 A	35
182N15	117/234V 50/60 Hz.	15V	8.0 A	35
182P15	117/234V 50/60 Hz.	15V	10.66 A	35
182H15	117/234V 50/60 Hz.	15V	15.0 A	35
182S15	117/234V 50/60 Hz.	15V	20.0 A	35
161C16	115V 60 Hz.	16V C.T.	0.0313 A	12
160D16	115/230V 50/60 Hz.	16V C.T.	0.055 A	12
161D16	115V 60 Hz.	16V C.T.	0.055 A	12
162D16	115/230V 50/60 Hz.	16V C.T.	0.07 A	14
164D16	115V 50/60 Hz.	16V C.T.	0.07 A	14
160E16	115/230V 50/60 Hz.	16V C.T.	0.075 A	12
161EA16	115V 60 Hz.	16V C.T.	0.075 A	12
162E16	115/230V 50/60 Hz.	16V C.T.	0.15 A	14
183E16	115/230V 50/60 Hz.	16V C.T.	0.15 A	16
229E16	115/230V 50/60 Hz.	16V C.T.	0.15 A	17
164E16	115V 50/60 Hz.	16V C.T.	0.15 A	14
187A16	115V 50/60 Hz.	16V C.T.	0.15 A	29
166F16	115V 60 Hz.	16V C.T.	0.25 A	21
160F16	115/230V 50/60 Hz.	16V C.T.	0.26 A	12
161FA16	115V 60 Hz.	16V C.T.	0.26 A	12
183F16	115/230V 50/60 Hz.	16V C.T.	0.31 A	16
229A16	115/230V 50/60 Hz.	16V C.T.	0.35 A	17
162F16	115/230V 50			

A.C. Secondary Voltage - Selection Guide

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		VAC	Current	
186B16	115/230V 50/60 Hz.	16V C.T.	0.4 A	29
164F16	115V 50/60 Hz.	16V C.T.	0.4 A	14
187B16	115V 50/60 Hz.	16V C.T.	0.4 A	29
166G16	115V 60 Hz.	16V C.T.	0.5 A	21
266G16	117/234V 50/60 Hz.	16V C.T.	0.5 A	24
183G16	115/230V 50/60 Hz.	16V C.T.	0.62 A	16
160G16	115/230V 50/60 Hz.	16V C.T.	0.64 A	12
161G16	115V 60 Hz.	16V C.T.	0.64 A	12
229B16	115/230V 50/60 Hz.	16V C.T.	0.7 A	17
162G16	115/230V 50/60 Hz.	16V C.T.	0.8 A	14
186C16	115/230V 50/60 Hz.	16V C.T.	0.8 A	29
164G16	115V 50/60 Hz.	16V C.T.	0.8 A	14
187C16	115V 50/60 Hz.	16V C.T.	0.8 A	29
166J16	115V 60 Hz.	16V C.T.	1.0 A	21
266J16	117/234V 50/60 Hz.	16V C.T.	1.0 A	24
162H16	115/230V 50/60 Hz.	16V C.T.	1.25 A	14
183H16	115/230V 50/60 Hz.	16V C.T.	1.25 A	16
164H16	115V 50/60 Hz.	16V C.T.	1.25 A	14
160H16	115/230V 50/60 Hz.	16V C.T.	1.5 A	12
229C16	115/230V 50/60 Hz.	16V C.T.	1.5 A	17
161H16	115V 60 Hz.	16V C.T.	1.5 A	12
185C16	115/230V 50/60 Hz.	16V C.T.	1.6 A	33
183J16	115/230V 50/60 Hz.	16V C.T.	1.9 A	16
186D16	115/230V 50/60 Hz.	16V C.T.	2.0 A	29
187D16	115V 50/60 Hz.	16V C.T.	2.0 A	29
166L16	115V 60 Hz.	16V C.T.	2.2 A	21
266L16	117/234V 50/60 Hz.	16V C.T.	2.2 A	24
162J16	115/230V 50/60 Hz.	16V C.T.	2.25 A	14
164J16	115V 50/60 Hz.	16V C.T.	2.25 A	14
185D16	115/230V 50/60 Hz.	16V C.T.	2.7 A	33
229D16	115/230V 50/60 Hz.	16V C.T.	3.0 A	17
166M16	115V 60 Hz.	16V C.T.	3.0 A	21
167M16	115V 60 Hz.	16V C.T.	3.0 A	31
266M16	117/234V 50/60 Hz.	16V C.T.	3.0 A	24
183K16	115/230V 50/60 Hz.	16V C.T.	3.5 A	16
186E16	115/230V 50/60 Hz.	16V C.T.	3.5 A	29
187E16	115V 50/60 Hz.	16V C.T.	3.5 A	29
185E16	115/230V 50/60 Hz.	16V C.T.	5.0 A	33
167P16	115V 60 Hz.	16V C.T.	5.0 A	31
186F16	115/230V 50/60 Hz.	16V C.T.	6.25 A	29
187F16	115V 50/60 Hz.	16V C.T.	6.25 A	29
185F16	115/230V 50/60 Hz.	16V C.T.	8.1 A	33
185G16	115/230V 50/60 Hz.	16V C.T.	11.0 A	33
160D34	115/230V 50/60 Hz.	17V	0.05 A	12
161D34	115V 60 Hz.	17V	0.05 A	12
160E34	115/230V 50/60 Hz.	17V	0.07 A	12
161E34	115V 60 Hz.	17V	0.07 A	12
229E34	115/230V 50/60 Hz.	17V	0.15 A	17
160F34	115/230V 50/60 Hz.	17V	0.25 A	12
161F34	115V 60 Hz.	17V	0.25 A	12
229A34	115/230V 50/60 Hz.	17V	0.34 A	17
160G34	115/230V 50/60 Hz.	17V	0.6 A	12
161G34	115V 60 Hz.	17V	0.6 A	12
229B34	115/230V 50/60 Hz.	17V	0.68 A	17
160H34	115/230V 50/60 Hz.	17V	1.4 A	12
229C34	115/230V 50/60 Hz.	17V	1.4 A	17
161H34	115V 60 Hz.	17V	1.4 A	12
229D34	115/230V 50/60 Hz.	17V	2.8 A	17
266K35	117/234V 50/60 Hz.	17.5V	3.0 A	25
166B18	115V 60 Hz.	18V C.T.	0.03A	21
162D36	115/230V 50/60 Hz.	18V	0.06 A	14
164D36	115V 50/60 Hz.	18V	0.06 A	14
162E36	115/230V 50/60 Hz.	18V	0.13 A	14
164E36	115V 50/60 Hz.	18V	0.13 A	14
183E36	115/230V 50/60 Hz.	18V	0.14 A	16
183F36	115/230V 50/60 Hz.	18V	0.28 A	16
166E18	115V 60 Hz.	18V C.T.	0.3 A	21
162F36	115/230V 50/60 Hz.	18V	0.34 A	14
164F36	115V 50/60 Hz.	18V	0.34 A	14
183G36	115/230V 50/60 Hz.	18V	0.56 A	16
162G36	115/230V 50/60 Hz.	18V	0.7 A	14
164G36	115V 50/60 Hz.	18V	0.7 A	14
182H9	117/234V 50/60 Hz.	18V C.T.	0.83 A	35
182F18	117/234V 50/60 Hz.	18V	0.84 A	35
266G36	117/234V 50/60 Hz.	18V	1.0 A	25
162H36	115/230V 50/60 Hz.	18V	1.1 A	14
164H36	115V 50/60 Hz.	18V	1.1 A	14
183H36	115/230V 50/60 Hz.	18V	1.12 A	16
185C36	115/230V 50/60 Hz.	18V	1.4 A	33
166K18	115V 60 Hz.	18V C.T.	1.5 A	21
266K18	117/234V 50/60 Hz.	18V C.T.	1.5 A	24
183J36	115/230V 50/60 Hz.	18V	1.64 A	16
182H18	117/234V 50/60 Hz.	18V	1.66 A	35
182K9	117/234V 50/60 Hz.	18V C.T.	1.67 A	35
162J36	115/230V 50/60 Hz.	18V	2.0 A	14
164J36	115V 50/60 Hz.	18V	2.0 A	14
266J36	117/234V 50/60 Hz.	18V	2.0 A	25
185D36	115/230V 50/60 Hz.	18V	2.4 A	33
182M9	117/234V 50/60 Hz.	18V C.T.	2.78 A	35
182J18	117/234V 50/60 Hz.	18V	2.78 A	35
166M18	115V 60 Hz.	18V C.T.	3.0 A	21
167M18	115V 60 Hz.	18V C.T.	3.0 A	31
266M18	117/234V 50/60 Hz.	18V C.T.	3.0 A	24
183K36	115/230V 50/60 Hz.	18V	3.12 A	16
185E36	115/230V 50/60 Hz.	18V	4.4 A	33
182N9	117/234V 50/60 Hz.	18V C.T.	4.44 A	35
182L18	117/234V 50/60 Hz.	18V	4.44 A	35
166P18	115V 60 Hz.	18V C.T.	5.0 A	21
167P18	115V 60 Hz.	18V C.T.	5.0 A	31
266P18	117/234V 50/60 Hz.	18V C.T.	5.0 A	24

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
182M18	117/234V 50/60 Hz.	18V	6.66 A	35
182Q9	117/234V 50/60 Hz.	18V C.T.	6.67 A	35
185F36	115/230V 50/60 Hz.	18V	7.2 A	33
182N18	117/234V 50/60 Hz.	18V	8.88 A	35
185G36	115/230V 50/60 Hz.	18V	9.6 A	33
165S18	115V 60 Hz.	18V C.T.	10.0 A	19
187S18	115V 60 Hz.	18V C.T.	10.0 A	31
182G18	117/234V 50/60 Hz.	18V	12.5 A	35
165U18	115V 60 Hz.	18V C.T.	15.0 A	19
167U18	115V 60 Hz.	18V C.T.	15.0 A	31
165V18	115V 60 Hz.	18V C.T.	20.0 A	19
167V18	115V 60 Hz.	18V C.T.	20.0 A	31
160D40	115/230V 50/60 Hz.	20V	0.04 A	12
161D40	115V 60 Hz.	20V	0.04 A	12
160D20	115/230V 50/60 Hz.	20V C.T.	0.045 A	12
161D20	115V 60 Hz.	20V C.T.	0.045 A	12
226D	115V 60 Hz.	20V C.T.	0.05 A	18
226H	115V 60 Hz.	20V	0.05 A	18
162D20	115/230V 50/60 Hz.	20V C.T.	0.055 A	14
164D20	115V 50/60 Hz.	20V C.T.	0.055 A	14
160E20	115/230V 50/60 Hz.	20V C.T.	0.06 A	12
160E40	115/230V 50/60 Hz.	20V	0.06 A	12
161EA20	115V 60 Hz.	20V C.T.	0.06 A	12
161E40	115V 60 Hz.	20V	0.06 A	12
166D20	115V 60 Hz.	20V C.T.	0.1 A	21
162E20	115/230V 50/60 Hz.	20V C.T.	0.12 A	14
183E20	115/230V 50/60 Hz.	20V C.T.	0.12 A	16
229E40	115/230V 50/60 Hz.	20V	0.12 A	17
164E20	115V 50/60 Hz.	20V C.T.	0.12 A	14
187A20	115V 50/60 Hz.	20V C.T.	0.12 A	29
229E20	115/230V 50/60 Hz.	20V C.T.	0.125 A	17
166E20	115V 60 Hz.	20V C.T.	0.15 A	21
160F20	115/230V 50/60 Hz.	20V C.T.	0.22 A	12
160F40	115/230V 50/60 Hz.	20V	0.22 A	12
161FA20	115V 60 Hz.	20V C.T.	0.22 A	12
161F40	115V 60 Hz.	20V	0.22 A	12
183F20	115/230V 50/60 Hz.	20V C.T.	0.25 A	16
227D	115V 60 Hz.	20V C.T.	0.25 A	18
227H	115V 60 Hz.	20V	0.25 A	18
162F20	115/230V 50/60 Hz.	20V C.T.	0.3 A	14
229A20	115/230V 50/60 Hz.	20V C.T.	0.3 A	17
229A40	115/230V 50/60 Hz.	20V	0.3 A	17
186B20	115/230V 50/60 Hz.	20V C.T.	0.3 A	29
164F20	115V 50/60 Hz.	20V C.T.	0.3 A	14
187B20	115V 50/60 Hz.	20V C.T.	0.3 A	29
166F20	115V 60 Hz.	20V C.T.	0.3 A	21
266F20	117/234V 50/60 Hz.	20V C.T.	0.3 A	24
160G20	115/230V 50/60 Hz.	20V C.T.	0.5 A	12
160G40	115/230V 50/60 Hz.	20V	0.5 A	12
183G20	115/230V 50/60 Hz.	20V C.T.	0.5 A	16
161G20	115V 60 Hz.	20V C.T.	0.5 A	12
161G40	115V 60 Hz.	20V	0.5 A	12
228D	115V 60 Hz.	20V C.T.	0.5 A	18
228H	115V 60 Hz.	20V	0.5 A	18
166G20	115V 60 Hz.	20V C.T.	0.5 A	21
266G20	117/234V 50/60 Hz.	20V C.T.	0.5 A	24
162G20	115/230V 50/60 Hz.	20V C.T.	0.6 A	14
229B20	115/230V 50/60 Hz.	20V C.T.	0.6 A	17
229B40	115/230V 50/60 Hz.	20V	0.6 A	17
186C20	115/230V 50/60 Hz.	20V C.T.	0.6 A	29
164G20	115V 50/60 Hz.	20V C.T.	0.6 A	14
187C20	115V 50/60 Hz.	20V C.T.	0.6 A	29
226N	115 V 400 Hz.	20V C.T.	1.0 A	18
226T	115 V 400 Hz.	20V	1.0 A	18
162H20	115/230V 50/60 Hz.	20V C.T.	1.0 A	14
183H20	115/230V 50/60 Hz.	20V C.T.	1.0 A	16
164H20	115V 50/60 Hz.	20V C.T.	1.0 A	14
166J20	115V 60 Hz.	20V C.T.	1.0 A	21
160H20	115/230V 50/60 Hz.	20V C.T.	1.2 A	12
160H40	115/230V 50/60 Hz.	20V	1.2 A	12
229C20	115/230V 50/60 Hz.	20V C.T.	1.2 A	17
229C40	115/230V 50/60 Hz.	20V	1.2 A	17
161H20	115V 60 Hz.	20V C.T.	1.2 A	12
161H40	115V 60 Hz.	20V	1.2 A	12
185C20	115/230V 50/60 Hz.	20V C.T.	1.25 A	33
183J20	115/230V 50/60 Hz.	20V C.T.	1.5 A	16
186D20	115/230V 50/60 Hz.	20V C.T.	1.5 A	29
187D20	115V 50/60 Hz.	20V C.T.	1.5 A	29
162J20	115/230V 50/60 Hz.	20V C.T.	1.8 A	14
164J20	115V 50/60 Hz.	20V C.T.	1.8 A	14
227N	115 V 400 Hz.	20V C.T.	2.0 A	18
227T	115 V 400 Hz.	20V	2.0 A	18
166L20	115V 60 Hz.	20V C.T.	2.0 A	21
266L20	117/234V 50/60 Hz.	20V C.T.	2.0 A	24
185D20	115/230V 50/60 Hz.	20V C.T.	2.2 A	33
229D20	115/230V 50/60 Hz.	20V C.T.	2.4 A	17
229D40	115/230V 50/60 Hz.	20V	2.4 A	17
183K20	115/230V 50/60 Hz.	20V C.T.	2.8 A	16
186E20	115/230V 50/60 Hz.	20V C.T.	2.8 A	29
187E20	115V 50/60 Hz.	20V C.T.	2.8 A	29
167M20	115V 60 Hz.	20V C.T.	3.0 A	31
266M20	117/234V 50/60 Hz.	20V C.T.	3.0 A	24
185E20	115/230V 50/60 Hz.	20V C.T.	4.0 A	33
186F20	115/230V 50/60 Hz.	20V C.T.	5.0 A	29
187F20	115V 50/60 Hz.	20V C.T.	5.0 A	29
167P20	115V 60 Hz.	20V C.T.	5.0 A	31
185F20	115/230V 50/60 Hz.	20V C.T.	6.5 A	33
185G20	115/230V 50/60 Hz.	20V C.T.	8.8 A	33
167U20	115V 60 Hz.	20V C.T.	16.0 A	31
182F22	117/234V 50/60 Hz.	22V	0.68 A	35

CANADA

Guelph, Ontario (519) 822-2960
 St. Laurent, Quebec (514) 343-9010

USA

Cheektowaga, NY (716)

A.C. Secondary Voltage - Selection Guide

Power

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
182G22	117/234V 50/60 Hz.	22V	1.36 A	35
166L22	115V 60 Hz.	22V C.T.	2.0 A	21
182J22	117/234V 50/60 Hz.	22V	2.28 A	35
182L22	117/234V 50/60 Hz.	22V	3.64 A	35
182M22	117/234V 50/60 Hz.	22V	5.46 A	35
182N22	117/234V 50/60 Hz.	22V	7.28 A	35
182P22	117/234V 50/60 Hz.	22V	10.22 A	35
165T22	115V 60 Hz.	22V C.T.	12.0 A	19
167T22	115V 60 Hz.	22V C.T.	12.0 A	31
165V22	115V 60 Hz.	22V C.T.	20.0 A	19
167V22	115V 60 Hz.	22V C.T.	20.0 A	31
160D24	115/230V 50/60 Hz.	24V C.T.	0.035 A	12
161D24	115V 60 Hz.	24V C.T.	0.035 A	12
162D24	115/230V 50/60 Hz.	24V C.T.	0.045 A	14
164D24	115V 50/60 Hz.	24V C.T.	0.045 A	14
162D48	115/230V 50/60 Hz.	24V	0.046 A	14
164D48	115V 50/60 Hz.	24V	0.046 A	14
160E24	115/230V 50/60 Hz.	24V C.T.	0.05 A	12
161E24	115V 60 Hz.	24V C.T.	0.05 A	12
166C24	115V 60 Hz.	24V C.T.	0.085 A	21
266C24	117/234V 50/60 Hz.	24V C.T.	0.085 A	24
162E24	115/230V 50/60 Hz.	24V C.T.	0.1 A	14
162E48	115/230V 50/60 Hz.	24V	0.1 A	14
183E24	115/230V 50/60 Hz.	24V C.T.	0.1 A	16
229E24	115/230V 50/60 Hz.	24V C.T.	0.1 A	17
164E24	115V 50/60 Hz.	24V C.T.	0.1 A	14
164E48	115V 50/60 Hz.	24V	0.1 A	14
187A24	115V 50/60 Hz.	24V C.T.	0.1 A	29
160F24	115/230V 50/60 Hz.	24V C.T.	0.18 A	12
161F24	115V 60 Hz.	24V C.T.	0.18 A	12
166EA24	115V 60 Hz.	24V C.T.	0.2 A	21
266EA24	117/234V 50/60 Hz.	24V C.T.	0.2 A	24
183F24	115/230V 50/60 Hz.	24V C.T.	0.21 A	16
162F24	115/230V 50/60 Hz.	24V C.T.	0.25 A	14
162F48	115/230V 50/60 Hz.	24V	0.25 A	14
229A24	115/230V 50/60 Hz.	24V C.T.	0.25 A	17
186B24	115/230V 50/60 Hz.	24V C.T.	0.25 A	29
164F24	115V 50/60 Hz.	24V C.T.	0.25 A	14
164F48	115V 50/60 Hz.	24V	0.25 A	14
187B24	115V 50/60 Hz.	24V C.T.	0.25 A	29
266F24	117/234V 50/60 Hz.	24V C.T.	0.3 A	24
266FB24	117/234V 50/60 Hz.	24V C.T.	0.4 A	24
166FB24	117V 50/60 Hz.	24V C.T.	0.4 A	21
183G24	115/230V 50/60 Hz.	24V C.T.	0.42 A	16
160G24	115/230V 50/60 Hz.	24V C.T.	0.45 A	12
161G24	115V 60 Hz.	24V C.T.	0.45 A	12
162G24	115/230V 50/60 Hz.	24V C.T.	0.5 A	14
162G48	115/230V 50/60 Hz.	24V	0.5 A	14
229B24	115/230V 50/60 Hz.	24V C.T.	0.5 A	17
186C24	115/230V 50/60 Hz.	24V C.T.	0.5 A	29
164G24	115V 50/60 Hz.	24V C.T.	0.5 A	14
164G48	115V 50/60 Hz.	24V	0.5 A	14
187C24	115V 50/60 Hz.	24V C.T.	0.5 A	29
266G24	117/234V 50/60 Hz.	24V C.T.	0.5 A	24
182G12	117/234V 50/60 Hz.	24V C.T.	0.63 A	35
266GD24	117/234V 50/60 Hz.	24V C.T.	0.7 A	24
166GD24B	117V 50/60 Hz.	24V C.T.	0.7 A	21
162H24	115/230V 50/60 Hz.	24V C.T.	0.8 A	14
162H48	115/230V 50/60 Hz.	24V	0.8 A	14
164H24	115V 50/60 Hz.	24V C.T.	0.8 A	14
164H48	115V 50/60 Hz.	24V	0.8 A	14
183H24	115/230V 50/60 Hz.	24V C.T.	0.83 A	16
160H24	115/230V 50/60 Hz.	24V C.T.	1.0 A	12
229C24	115/230V 50/60 Hz.	24V C.T.	1.0 A	17
185C24	115/230V 50/60 Hz.	24V C.T.	1.0 A	33
161H24	115V 60 Hz.	24V C.T.	1.0 A	12
166JB24	115V 60 Hz.	24V C.T.	1.0 A	21
266J24	117/234V 50/60 Hz.	24V C.T.	1.0 A	24
166J24	117V 50/60 Hz.	24V C.T.	1.0 A	21
PHC25JGA	120V 60 Hz.	24V	1.04 A	26
PHC25LGA	208V 60 Hz.	24V	1.04 A	26
PHC25KGA	347V 60 Hz.	24V	1.04 A	26
PHC25AGA	600V 60 Hz.	24V	1.04 A	26
183J24	115/230V 50/60 Hz.	24V C.T.	1.25 A	16
186D24	115/230V 50/60 Hz.	24V C.T.	1.25 A	29
187D24	115V 50/60 Hz.	24V C.T.	1.25 A	29
182K12	117/234V 50/60 Hz.	24V C.T.	1.25 A	35
162J24	115/230V 50/60 Hz.	24V C.T.	1.5 A	14
162J48	115/230V 50/60 Hz.	24V	1.5 A	14
164J24	115V 50/60 Hz.	24V C.T.	1.5 A	14
164J48	115V 50/60 Hz.	24V	1.5 A	14
185D24	115/230V 50/60 Hz.	24V C.T.	1.8 A	33
229D24	115/230V 50/60 Hz.	24V C.T.	2.0 A	17
166L24	115V 60 Hz.	24V C.T.	2.0 A	21
167L24	115V 60 Hz.	24V C.T.	2.0 A	31
266L24	117/234V 50/60 Hz.	24V C.T.	2.0 A	24
266J48	117/234V 50/60 Hz.	24V	2.0 A	25
182L12	117/234V 50/60 Hz.	24V C.T.	2.08 A	35
PHC50JGA	120V 60 Hz.	24V	2.08 A	26
PHC50LGA	208V 60 Hz.	24V	2.08 A	26
PHC50KGA	347V 60 Hz.	24V	2.08 A	26
PHC50AGA	600V 60 Hz.	24V	2.08 A	26
183K24	115/230V 50/60 Hz.	24V C.T.	2.33 A	16
186E24	115/230V 50/60 Hz.	24V C.T.	2.4 A	29
187E24	115V 50/60 Hz.	24V C.T.	2.4 A	29
166M24	115V 60 Hz.	24V C.T.	3.0 A	21
266M24	117/234V 50/60 Hz.	24V C.T.	3.0 A	24
185E24	115/230V 50/60 Hz.	24V C.T.	3.3 A	33
182M12	117/234V 50/60 Hz.	24V C.T.	3.33 A	35
186F24	115/230V 50/60 Hz.	24V C.T.	4.0 A	29

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
187F24	115V 50/60 Hz.	24V C.T.	4.0 A	29
166N24	115V 60 Hz.	24V C.T.	4.0 A	21
266N24	117/234V 50/60 Hz.	24V C.T.	4.0 A	24
266L48	117/234V 50/60 Hz.	24V	4.0 A	25
266P24	117/234V 50/60 Hz.	24V C.T.	5.0 A	24
182P12	117/234V 50/60 Hz.	24V C.T.	5.0 A	35
185F24	115/230V 50/60 Hz.	24V C.T.	5.4 A	33
266PA24	117/234V 50/60 Hz.	24V C.T.	6.0 A	25
266M48	117/234V 50/60 Hz.	24V	6.0 A	25
182Q12	117/234V 50/60 Hz.	24V C.T.	6.67 A	35
185G24	115/230V 50/60 Hz.	24V C.T.	7.3 A	33
266R24	117/234V 50/60 Hz.	24V C.T.	8.0 A	25
266N48	117/234V 50/60 Hz.	24V	8.0 A	25
182S12	117/234V 50/60 Hz.	24V C.T.	9.38 A	35
266S24	117/234V 50/60 Hz.	24V C.T.	10.0 A	25
182T12	117/234V 50/60 Hz.	24V C.T.	12.5 A	35
182S24	117/234V 50/60 Hz.	24V	20.82 A	35
182T24	117/234V 50/60 Hz.	24V	26.04 A	35
182U24	117/234V 50/60 Hz.	24V	31.26 A	35
182V24	117/234V 50/60 Hz.	24V	41.7 A	35
166D25	115V 60 Hz.	25V C.T.	0.1 A	21
166E25	115V 60 Hz.	25V C.T.	0.15 A	21
166F25	115V 60 Hz.	25V C.T.	0.3 A	21
166G25	115V 60 Hz.	25V C.T.	0.5 A	21
166J25	115V 60 Hz.	25V C.T.	1.0 A	21
167J25	115V 60 Hz.	25V C.T.	1.0 A	31
166J25B	117V 50/60 Hz.	25V C.T.	1.0 A	21
166K25	115V 60 Hz.	25V C.T.	1.5 A	21
167K25	115V 60 Hz.	25V C.T.	1.5 A	31
166L25	115V 60 Hz.	25V C.T.	2.0 A	21
166M25	115V 60 Hz.	25V C.T.	3.0 A	21
167M25	115V 60 Hz.	25V C.T.	3.0 A	31
266M25	117/234V 50/60 Hz.	25V C.T.	3.0 A	25
167N25	115V 60 Hz.	25V C.T.	4.0 A	31
165P25	115V 60 Hz.	25V C.T.	5.0 A	19
167P25	115V 60 Hz.	25V C.T.	5.0 A	31
165S25	115V 60 Hz.	25V C.T.	10.0 A	19
167S25	115V 60 Hz.	25V C.T.	10.0 A	31
166A24	115V 60 Hz.	25.2V C.T.	0.025 A	21
266J25	117/234V 50/60 Hz.	25.2V C.T.	1.0 A	25
166L25B	115V 50/60 Hz.	25.2V C.T.	2.0 A	21
266L25	117/234V 50/60 Hz.	25.2V C.T.	2.0 A	25
266LH25	117/234V 50/60 Hz.	25.2V C.T.	2.8 A	25
226P	115 V 400 Hz.	26V C.T.	0.77 A	18
227P	115 V 400 Hz.	26V C.T.	1.54 A	18
266J26	117/234V 50/60 Hz.	26.8V C.T.	1.0 A	25
160D28	115/230V 50/60 Hz.	28V C.T.	0.03 A	12
160D56	115/230V 50/60 Hz.	28V	0.03 A	12
161D28	115V 60 Hz.	28V C.T.	0.03 A	12
161D56	115V 60 Hz.	28V	0.03 A	12
160E28	115/230V 50/60 Hz.	28V C.T.	0.04 A	12
160E56	115/230V 50/60 Hz.	28V	0.04 A	12
162D28	115/230V 50/60 Hz.	28V C.T.	0.04 A	14
162D56	115/230V 50/60 Hz.	28V	0.04 A	14
164D28	115V 50/60 Hz.	28V C.T.	0.04 A	14
164D56	115V 50/60 Hz.	28V	0.04 A	14
161E28	115V 60 Hz.	28V C.T.	0.04 A	12
161E56	115V 60 Hz.	28V	0.04 A	12
187A28	115V 50/60 Hz.	28V C.T.	0.08 A	29
162E28	115/230V 50/60 Hz.	28V C.T.	0.085 A	14
164E28	115V 50/60 Hz.	28V C.T.	0.085 A	14
162E56	115/230V 50/60 Hz.	28V	0.09 A	14
183E28	115/230V 50/60 Hz.	28V C.T.	0.09 A	16
229E56	115/230V 50/60 Hz.	28V	0.09 A	17
164E56	115V 50/60 Hz.	28V	0.09 A	14
160F28	115/230V 50/60 Hz.	28V C.T.	0.16 A	12
160F56	115/230V 50/60 Hz.	28V	0.16 A	12
161F28	115V 60 Hz.	28V C.T.	0.16 A	12
161F56	115V 60 Hz.	28V	0.16 A	12
183F28	115/230V 50/60 Hz.	28V C.T.	0.18 A	16
162F28	115/230V 50/60 Hz.	28V C.T.	0.2 A	14
229A56	115/230V 50/60 Hz.	28V	0.2 A	17
186B28	115/230V 50/60 Hz.	28V C.T.	0.2 A	29
164F28	115V 50/60 Hz.	28V C.T.	0.2 A	14
187B28	115V 50/60 Hz.	28V C.T.	0.2 A	29
162F56	115/230V 50/60 Hz.	28V	0.22 A	14
164F56	115V 50/60 Hz.	28V	0.22 A	14
166F28	115V 60 Hz.	28V C.T.	0.25 A	21
160G28	115/230V 50/60 Hz.	28V C.T.	0.36 A	12
160G56	115/230V 50/60 Hz.	28V	0.36 A	12
183G28	115/230V 50/60 Hz.	28V C.T.	0.36 A	16
161G28	115V 60 Hz.	28V C.T.	0.36 A	12
161G56	115V 60 Hz.	28V	0.36 A	12
229B56	115/230V 50/60 Hz.	28V	0.4 A	17
162G28	115/230V 50/60 Hz.	28V C.T.	0.42 A	14
186C28	115/230V 50/60 Hz.	28V C.T.	0.42 A	29
164G28	115V 50/60 Hz.	28V C.T.	0.42 A	14
187C28	115V 50/60 Hz.	28V C.T.	0.42 A	29
162G56	115/230V 50/60 Hz.	28V	0.44 A	14
164G56	115V 50/60 Hz.	28V	0.44 A	14
166G28	115V 60 Hz.	28V C.T.	0.5 A	21
162H28	115/230V 50/60 Hz.	28V C.T.	0.7 A	14
162H56	115/230V 50/60 Hz.	28V	0.7 A	14
164H28	115V 50/60 Hz.	28V C.T.	0.7 A	14
164H56	115V 50/60 Hz.	28V	0.7 A	14
183H28	115/230V 50/60 Hz.	28V C.T.	0.72 A	16
160H28	115/230V 50/60 Hz.	28V C.T.	0.8 A	12
161H28	115V 60 Hz.	28V C.T.	0.8 A	12
160H56	115/230V 50/60 Hz.	28V	0.84 A	12
161H56	115V 60 Hz.	28V	0.84 A	12

EUROPE

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CANADA

A.C. Secondary Voltage - Selection Guide

Power

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
229C56	115/230V 50/60 Hz.	28V	0.85 A	17
185C28	115/230V 50/60 Hz.	28V C.T.	0.9 A	33
166J28	115V 60 Hz.	28V C.T.	1.0 A	22
167J28	115V 60 Hz.	28V C.T.	1.0 A	31
183J28	115/230V 50/60 Hz.	28V C.T.	1.06 A	16
186D28	115/230V 50/60 Hz.	28V C.T.	1.07 A	29
187D28	115V 50/60 Hz.	28V C.T.	1.07 A	29
162J28	115/230V 50/60 Hz.	28V C.T.	1.3 A	14
162J56	115/230V 50/60 Hz.	28V	1.3 A	14
164J28	115V 50/60 Hz.	28V C.T.	1.3 A	14
164J56	115V 50/60 Hz.	28V	1.3 A	14
185D28	115/230V 50/60 Hz.	28V C.T.	1.5 A	33
229D56	115/230V 50/60 Hz.	28V	1.7 A	17
183K28	115/230V 50/60 Hz.	28V C.T.	2.0 A	16
186E28	115/230V 50/60 Hz.	28V C.T.	2.0 A	29
187E28	115V 50/60 Hz.	28V C.T.	2.0 A	29
166L28	115V 60 Hz.	28V C.T.	2.0 A	22
167L28	115V 60 Hz.	28V C.T.	2.0 A	31
266L28	117/234V 50/60 Hz.	28V C.T.	2.0 A	25
185E28	115/230V 50/60 Hz.	28V C.T.	2.8 A	33
167M28	115V 60 Hz.	28V C.T.	3.0 A	31
186F28	115/230V 50/60 Hz.	28V C.T.	3.57 A	29
187F28	115V 50/60 Hz.	28V C.T.	3.57 A	29
185F28	115/230V 50/60 Hz.	28V C.T.	4.6 A	33
185G28	115/230V 50/60 Hz.	28V C.T.	6.25 A	33
226F	115V 60 Hz.	30V C.T.	0.034 A	18
229E30	115/230V 50/60 Hz.	30V C.T.	0.085 A	17
166E30	115V 60 Hz.	30V C.T.	0.15 A	22
227F	115V 60 Hz.	30V C.T.	0.17 A	18
229A30	115/230V 50/60 Hz.	30V C.T.	0.2 A	17
166F30	115V 60 Hz.	30V C.T.	0.25 A	22
228F	115V 60 Hz.	30V C.T.	0.34 A	18
229B30	115/230V 50/60 Hz.	30V C.T.	0.4 A	17
166G30	115V 60 Hz.	30V C.T.	0.5 A	22
182G15	117/234V 50/60 Hz.	30V C.T.	0.5 A	35
226R	115 V 400 Hz.	30V C.T.	0.67 A	18
229C30	115/230V 50/60 Hz.	30V C.T.	0.8 A	17
182J15	117/234V 50/60 Hz.	30V C.T.	1.0 A	35
227R	115 V 400 Hz.	30V C.T.	1.33 A	18
167K30	115V 60 Hz.	30V C.T.	1.5 A	31
229D30	115/230V 50/60 Hz.	30V C.T.	1.6 A	17
182K15	117/234V 50/60 Hz.	30V C.T.	1.67 A	35
182K30	117/234V 50/60 Hz.	30V	2.66 A	35
182M15	117/234V 50/60 Hz.	30V C.T.	2.67 A	35
167M30	115V 60 Hz.	30V C.T.	3.0 A	31
182N15	117/234V 50/60 Hz.	30V C.T.	4.0 A	35
182L30	117/234V 50/60 Hz.	30V	4.0 A	35
165P30	115V 60 Hz.	30V C.T.	5.0 A	19
167P30	115V 60 Hz.	30V C.T.	5.0 A	31
182P15	117/234V 50/60 Hz.	30V C.T.	5.33 A	35
182M30	117/234V 50/60 Hz.	30V	5.34 A	35
182H15	117/234V 50/60 Hz.	30V C.T.	7.5 A	35
182F30	117/234V 50/60 Hz.	30V	7.5 A	35
165S30	115V 60 Hz.	30V C.T.	10.0 A	19
167S30	115V 60 Hz.	30V C.T.	10.0 A	31
182S15	117/234V 50/60 Hz.	30V C.T.	10.0 A	35
182P30	117/234V 50/60 Hz.	30V	10.0 A	35
182R30	117/234V 50/60 Hz.	30V	16.66 A	35
182S30	117/234V 50/60 Hz.	30V	20.84 A	35
182T30	117/234V 50/60 Hz.	30V	25.0 A	35
182U30	117/234V 50/60 Hz.	30V	33.3 A	35
166J33	115V 60 Hz.	33V C.T.	1.0 A	22
167J33	115V 60 Hz.	33V C.T.	1.0 A	31
160D34	115/230V 50/60 Hz.	34V C.T.	0.025 A	12
161D34	115V 60 Hz.	34V C.T.	0.025 A	12
160E34	115/230V 50/60 Hz.	34V C.T.	0.035 A	12
161E34	115V 60 Hz.	34V C.T.	0.035 A	12
229E34	115/230V 50/60 Hz.	34V C.T.	0.075 A	17
160F34	115/230V 50/60 Hz.	34V C.T.	0.125 A	12
161F34	115V 60 Hz.	34V C.T.	0.125 A	12
229A34	115/230V 50/60 Hz.	34V C.T.	0.17 A	17
160G34	115/230V 50/60 Hz.	34V C.T.	0.3 A	12
161G34	115V 60 Hz.	34V C.T.	0.3 A	12
229B34	115/230V 50/60 Hz.	34V C.T.	0.34 A	17
160H34	115/230V 50/60 Hz.	34V C.T.	0.7 A	12
229C34	115/230V 50/60 Hz.	34V C.T.	0.7 A	17
161H34	115V 60 Hz.	34V C.T.	0.7 A	12
229D34	115/230V 50/60 Hz.	34V C.T.	1.4 A	17
166K35	115V 60 Hz.	35V C.T.	1.5 A	22
266K35	117/234V 50/60 Hz.	35V C.T.	1.5 A	25
162D36	115/230V 50/60 Hz.	36V C.T.	0.03 A	14
164D36	115V 50/60 Hz.	36V C.T.	0.03 A	14
187A36	115V 50/60 Hz.	36V C.T.	0.06 A	29
162E36	115/230V 50/60 Hz.	36V C.T.	0.065 A	14
164E36	115V 50/60 Hz.	36V C.T.	0.065 A	14
183E36	115/230V 50/60 Hz.	36V C.T.	0.07 A	16
183F36	115/230V 50/60 Hz.	36V C.T.	0.14 A	22
166E36	115V 60 Hz.	36V C.T.	0.15 A	22
162F36	115/230V 50/60 Hz.	36V C.T.	0.17 A	14
186B36	115/230V 50/60 Hz.	36V C.T.	0.17 A	29
164F36	115V 50/60 Hz.	36V C.T.	0.17 A	14
187B36	115V 50/60 Hz.	36V C.T.	0.17 A	29
183G36	115/230V 50/60 Hz.	36V C.T.	0.28 A	16
166F36	115V 60 Hz.	36V C.T.	0.3 A	22
162G36	115/230V 50/60 Hz.	36V C.T.	0.35 A	14
186C36	115/230V 50/60 Hz.	36V C.T.	0.35 A	29
164G36	115V 50/60 Hz.	36V C.T.	0.35 A	14
187C36	115V 50/60 Hz.	36V C.T.	0.35 A	29
182F18	117/234V 50/60 Hz.	36V C.T.	0.42 A	35
166G36	115V 60 Hz.	36V C.T.	0.5 A	22

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
266G36	117/234V 50/60 Hz.	36V C.T.	0.5 A	25
162H36	115/230V 50/60 Hz.	36V C.T.	0.55 A	14
164H36	115V 50/60 Hz.	36V C.T.	0.55 A	14
183H36	115/230V 50/60 Hz.	36V C.T.	0.56 A	16
185C36	115/230V 50/60 Hz.	36V C.T.	0.7 A	33
183J36	115/230V 50/60 Hz.	36V C.T.	0.82 A	16
182H18	117/234V 50/60 Hz.	36V C.T.	0.83 A	35
186D36	115/230V 50/60 Hz.	36V C.T.	0.85 A	29
187D36	115V 50/60 Hz.	36V C.T.	0.85 A	29
162J36	115/230V 50/60 Hz.	36V C.T.	1.0 A	14
164J36	115V 50/60 Hz.	36V C.T.	1.0 A	14
166J36	115V 60 Hz.	36V C.T.	1.0 A	22
167J36	115V 60 Hz.	36V C.T.	1.0 A	31
266J36	117/234V 50/60 Hz.	36V C.T.	1.0 A	25
185D36	115/230V 50/60 Hz.	36V C.T.	1.2 A	33
182J18	117/234V 50/60 Hz.	36V C.T.	1.39 A	35
186E36	115/230V 50/60 Hz.	36V C.T.	1.5 A	29
187E36	115V 50/60 Hz.	36V C.T.	1.5 A	29
183K36	115/230V 50/60 Hz.	36V C.T.	1.56 A	16
167L36	115V 60 Hz.	36V C.T.	2.0 A	31
185E36	115/230V 50/60 Hz.	36V C.T.	2.2 A	33
182L18	117/234V 50/60 Hz.	36V C.T.	2.22 A	35
186F36	115/230V 50/60 Hz.	36V C.T.	2.8 A	29
187F36	115V 50/60 Hz.	36V C.T.	2.8 A	29
167M36	115V 60 Hz.	36V C.T.	3.0 A	31
182M18	117/234V 50/60 Hz.	36V C.T.	3.33 A	35
185F36	115/230V 50/60 Hz.	36V C.T.	3.6 A	33
182N18	117/234V 50/60 Hz.	36V C.T.	4.44 A	35
185G36	115/230V 50/60 Hz.	36V C.T.	4.8 A	33
167P36	115V 60 Hz.	36V C.T.	5.0 A	31
182G18	117/234V 50/60 Hz.	36V C.T.	6.25 A	35
167R36	115V 60 Hz.	36V C.T.	8.0 A	31
167T36	115V 60 Hz.	36V C.T.	12.0 A	31
160D40	115/230V 50/60 Hz.	40V C.T.	0.02 A	12
161D40	115V 60 Hz.	40V C.T.	0.02 A	12
226H	115V 60 Hz.	40V C.T.	0.025 A	18
160E40	115/230V 50/60 Hz.	40V C.T.	0.03 A	12
161E40	115V 60 Hz.	40V C.T.	0.03 A	12
229E40	115/230V 50/60 Hz.	40V C.T.	0.06 A	17
160F40	115/230V 50/60 Hz.	40V C.T.	0.11 A	12
161F40	115V 60 Hz.	40V C.T.	0.11 A	12
227H	115V 60 Hz.	40V C.T.	0.125 A	18
229A40	115/230V 50/60 Hz.	40V C.T.	0.15 A	17
160G40	115/230V 50/60 Hz.	40V C.T.	0.25 A	12
161G40	115V 60 Hz.	40V C.T.	0.25 A	12
228H	115V 60 Hz.	40V C.T.	0.25 A	18
229B40	115/230V 50/60 Hz.	40V C.T.	0.3 A	17
226T	115 V 400 Hz.	40V C.T.	0.5 A	18
160H40	115/230V 50/60 Hz.	40V C.T.	0.6 A	12
229C40	115/230V 50/60 Hz.	40V C.T.	0.6 A	17
161H40	115V 60 Hz.	40V C.T.	0.6 A	12
227T	115 V 400 Hz.	40V C.T.	1.0 A	18
229D40	115/230V 50/60 Hz.	40V C.T.	1.2 A	17
182V40	117/234V 50/60 Hz.	40V	37.5 A	35
166L42	115V 60 Hz.	42V C.T.	2.0 A	22
229E88	115/230V 50/60 Hz.	44V	0.056 A	17
229A88	115/230V 50/60 Hz.	44V	0.13 A	17
166E44	115V 60 Hz.	44V C.T.	0.15 A	22
166F44	115V 60 Hz.	44V C.T.	0.25 A	22
229B88	115/230V 50/60 Hz.	44V	0.26 A	17
182F22	117/234V 50/60 Hz.	44V C.T.	0.34 A	35
166G44	115V 60 Hz.	44V C.T.	0.5 A	22
182G22	117/234V 50/60 Hz.	44V C.T.	0.68 A	35
166J44	115V 60 Hz.	44V C.T.	1.0 A	22
182J22	117/234V 50/60 Hz.	44V C.T.	1.14 A	35
182L22	117/234V 50/60 Hz.	44V C.T.	1.82 A	35
167L44	115V 60 Hz.	44V C.T.	2.0 A	31
182M22	117/234V 50/60 Hz.	44V C.T.	2.73 A	35
182N22	117/234V 50/60 Hz.	44V C.T.	3.64 A	35
182P22	117/234V 50/60 Hz.	44V C.T.	5.11 A	35
162D48	115/230V 50/60 Hz.	48V C.T.	0.023 A	14
164D48	115V 50/60 Hz.	48V C.T.	0.023 A	14
162E48	115/230V 50/60 Hz.	48V C.T.	0.05 A	14
164E48	115V 50/60 Hz.	48V C.T.	0.05 A	14
187A48	115V 50/60 Hz.	48V C.T.	0.05 A	29
186B48	115/230V 50/60 Hz.	48V C.T.	0.12 A	29
187B48	115V 50/60 Hz.	48V C.T.	0.12 A	29
162F48	115/230V 50/60 Hz.	48V C.T.	0.125 A	14
164F48	115V 50/60 Hz.	48V C.T.	0.125 A	14
162G48	115/230V 50/60 Hz.	48V C.T.	0.25 A	14
186C48	115/230V 50/60 Hz.	48V C.T.	0.25 A	29
164G48	115V 50/60 Hz.	48V C.T.	0.25 A	14
187C48	115V 50/60 Hz.	48V C.T.	0.25 A	29
162H48	115/230V 50/60 Hz.	48V C.T.	0.4 A	14
164H48	115V 50/60 Hz.	48V C.T.	0.4 A	14
186D48	115/230V 50/60 Hz.	48V C.T.	0.62 A	29
187D48	115V 50/60 Hz.	48V C.T.	0.62 A	29
162J48	115/230V 50/60 Hz.	48V C.T.	0.75 A	14
164J48	115V 50/60 Hz.	48		

A.C. Secondary Voltage - Selection Guide

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Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
182U24	117/234V 50/60 Hz.	48V C.T.	15.63 A	35
182V24	117/234V 50/60 Hz.	48V C.T.	20.8 A	35
166C50	115V 60 Hz.	50V C.T.	0.075 A	22
166F50	115V 60 Hz.	50V C.T.	0.3 A	22
166G50	115V 60 Hz.	50V C.T.	0.5 A	22
166J50	115V 60 Hz.	50V C.T.	1.0 A	22
167J50	115V 60 Hz.	50V C.T.	1.0 A	31
166L50	115V 60 Hz.	50V C.T.	2.0 A	22
167L50	115V 60 Hz.	50V C.T.	2.0 A	31
167P50	115V 60 Hz.	50V C.T.	5.0 A	31
167G55	115V 60 Hz.	55V C.T.	0.5 A	31
167J55	115V 60 Hz.	55V C.T.	1.0 A	31
167L55	115V 60 Hz.	55V C.T.	2.0 A	31
160D56	115/230V 50/60 Hz.	56V C.T.	0.015 A	12
161D56	115V 60 Hz.	56V C.T.	0.015 A	12
160E56	115/230V 50/60 Hz.	56V C.T.	0.02 A	12
162D56	115/230V 50/60 Hz.	56V C.T.	0.02 A	14
164D56	115V 50/60 Hz.	56V C.T.	0.02 A	12
161E56	115V 60 Hz.	56V C.T.	0.02 A	12
187A56	115V 50/60 Hz.	56V C.T.	0.04 A	29
162E56	115/230V 50/60 Hz.	56V C.T.	0.045 A	14
229E56	115/230V 50/60 Hz.	56V C.T.	0.045 A	17
164E56	115V 50/60 Hz.	56V C.T.	0.045 A	14
160F56	115/230V 50/60 Hz.	56V C.T.	0.08 A	12
161F56	115V 60 Hz.	56V C.T.	0.08 A	12
229A56	115/230V 50/60 Hz.	56V C.T.	0.1 A	17
162F56	115/230V 50/60 Hz.	56V C.T.	0.11 A	14
186B56	115/230V 50/60 Hz.	56V C.T.	0.11 A	29
164F56	115V 50/60 Hz.	56V C.T.	0.11 A	14
187B56	115V 50/60 Hz.	56V C.T.	0.11 A	29
160G56	115/230V 50/60 Hz.	56V C.T.	0.18 A	12
161G56	115V 60 Hz.	56V C.T.	0.18 A	12
229B56	115/230V 50/60 Hz.	56V C.T.	0.2 A	17
186C56	115/230V 50/60 Hz.	56V C.T.	0.21 A	29
187C56	115V 50/60 Hz.	56V C.T.	0.21 A	29
162G56	115/230V 50/60 Hz.	56V C.T.	0.22 A	14
164G56	115V 50/60 Hz.	56V C.T.	0.22 A	14
162H56	115/230V 50/60 Hz.	56V C.T.	0.35 A	14
164H56	115V 50/60 Hz.	56V C.T.	0.35 A	14
160H56	115/230V 50/60 Hz.	56V C.T.	0.42 A	12
161H56	115V 60 Hz.	56V C.T.	0.42 A	12
229C56	115/230V 50/60 Hz.	56V C.T.	0.425 A	17
186D56	115/230V 50/60 Hz.	56V C.T.	0.53 A	29
187D56	115V 50/60 Hz.	56V C.T.	0.53 A	29
162J56	115/230V 50/60 Hz.	56V C.T.	0.65 A	14
164J56	115V 50/60 Hz.	56V C.T.	0.65 A	14
229D56	115/230V 50/60 Hz.	56V C.T.	0.85 A	17
186E56	115/230V 50/60 Hz.	56V C.T.	1.0 A	29
187E56	115V 50/60 Hz.	56V C.T.	1.0 A	29
186F56	115/230V 50/60 Hz.	56V C.T.	1.8 A	29
187F56	115V 50/60 Hz.	56V C.T.	1.8 A	29
160D120	115/230V 50/60 Hz.	60V	0.016 A	12
161D120	115V 60 Hz.	60V	0.016 A	12
160E120	115/230V 50/60 Hz.	60V	0.02 A	12
162D120	115/230V 50/60 Hz.	60V	0.02 A	14
164D120	115V 50/60 Hz.	60V	0.02 A	14
161E120	115V 60 Hz.	60V	0.02 A	12
162E120	115/230V 50/60 Hz.	60V	0.04 A	14
229E120	115/230V 50/60 Hz.	60V	0.04 A	17
164E120	115V 50/60 Hz.	60V	0.04 A	14
160F120	115/230V 50/60 Hz.	60V	0.07 A	12
161F120	115V 60 Hz.	60V	0.07 A	12
162F120	115/230V 50/60 Hz.	60V	0.1 A	14
229A120	115/230V 50/60 Hz.	60V	0.1 A	17
164F120	115V 50/60 Hz.	60V	0.1 A	14
160G120	115/230V 50/60 Hz.	60V	0.17 A	12
161G120	115V 60 Hz.	60V	0.17 A	12
162G120	115/230V 50/60 Hz.	60V	0.2 A	14
229B120	115/230V 50/60 Hz.	60V	0.2 A	17
164G120	115V 50/60 Hz.	60V	0.2 A	14
162H120	115/230V 50/60 Hz.	60V	0.32 A	14
164H120	115V 50/60 Hz.	60V	0.32 A	14
160H120	115/230V 50/60 Hz.	60V	0.4 A	12
161H120	115V 60 Hz.	60V	0.4 A	12
166G60	115V 60 Hz.	60V C.T.	0.5 A	22
167G60	115V 60 Hz.	60V C.T.	0.5 A	31
162J120	115/230V 50/60 Hz.	60V	0.6 A	14
164J120	115V 50/60 Hz.	60V	0.6 A	14
167J60	115V 60 Hz.	60V C.T.	1.0 A	31
182K30	117/234V 50/60 Hz.	60V C.T.	1.33 A	35
167L60	115V 60 Hz.	60V C.T.	2.0 A	31
182L30	117/234V 50/60 Hz.	60V C.T.	2.0 A	35
182M30	117/234V 50/60 Hz.	60V C.T.	2.67 A	35
167M60	115V 60 Hz.	60V C.T.	3.0 A	31
182F30	117/234V 50/60 Hz.	60V C.T.	3.75 A	35
165P60	115V 60 Hz.	60V C.T.	5.0 A	19
167P60	115V 60 Hz.	60V C.T.	5.0 A	31
182P30	117/234V 50/60 Hz.	60V C.T.	5.0 A	35
182L60	117/234V 50/60 Hz.	60V	5.0 A	35
182R30	117/234V 50/60 Hz.	60V C.T.	8.33 A	35
182N60	117/234V 50/60 Hz.	60V	8.34 A	35
182S30	117/234V 50/60 Hz.	60V C.T.	10.42 A	35
182P60	117/234V 50/60 Hz.	60V	10.42 A	35
182T30	117/234V 50/60 Hz.	60V C.T.	12.5 A	35
182Q60	117/234V 50/60 Hz.	60V	12.5 A	35
182U30	117/234V 50/60 Hz.	60V C.T.	16.7 A	35
182R60	117/234V 50/60 Hz.	60V	16.7 A	35
182T60	117/234V 50/60 Hz.	60V	25.0 A	35
167S64	115V 60 Hz.	64V C.T.	10.0 A	31
167L70	115V 60 Hz.	70V C.T.	2.0 A	31

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
167N70	115V 60 Hz.	70V C.T.	4.0 A	31
166M72	117V 50/60 Hz.	72V C.T.	3.0 A	22
166G80	115V 60 Hz.	80V C.T.	0.5 A	22
167G80	115V 60 Hz.	80V C.T.	0.5 A	31
167J80	115V 60 Hz.	80V C.T.	1.0 A	31
167L80	115V 60 Hz.	80V C.T.	2.0 A	31
165N80	115V 60 Hz.	80V C.T.	4.0 A	19
167N80	115V 60 Hz.	80V C.T.	4.0 A	31
182V40	117/234V 50/60 Hz.	80V C.T.	18.8 A	35
229E88	115/230V 50/60 Hz.	88V C.T.	0.028 A	17
229A88	115/230V 50/60 Hz.	88V C.T.	0.065 A	17
229B88	115/230V 50/60 Hz.	88V C.T.	0.13 A	17
166G100	115V 60 Hz.	100V C.T.	0.5 A	22
167G100	115V 60 Hz.	100V C.T.	0.5 A	31
167J100	115V 60 Hz.	100V C.T.	1.0 A	31
167P100	115V 60 Hz.	100V C.T.	5.0 A	31
182D110	117/234V 50/60 Hz.	110V	0.136 A	35
182E110	117/234V 50/60 Hz.	110V	0.272 A	35
182G110	117/234V 50/60 Hz.	110V	0.454 A	35
182H110	117/234V 50/60 Hz.	110V	0.728 A	35
182J110	117/234V 50/60 Hz.	110V	1.09 A	35
182K110	117/234V 50/60 Hz.	110V	1.45 A	35
182L110	117/234V 50/60 Hz.	110V	2.04 A	35
182M110	117/234V 50/60 Hz.	110V	2.72 A	35
182P110	117/234V 50/60 Hz.	110V	4.54 A	35
182Q110	117/234V 50/60 Hz.	110V	5.68 A	35
182R110	117/234V 50/60 Hz.	110V	6.82 A	35
182S110	117/234V 50/60 Hz.	110V	9.1 A	35
182U110	117/234V 50/60 Hz.	110V	13.6 A	35
229E230	115/230V 50/60 Hz.	115V	0.02 A	17
229A230	115/230V 50/60 Hz.	115V	0.05 A	17
229B230	115/230V 50/60 Hz.	115V	0.1 A	17
185C230	115/230V 50/60 Hz.	115V	0.22 A	33
185D230	115/230V 50/60 Hz.	115V	0.38 A	33
185E230	115/230V 50/60 Hz.	115V	0.7 A	33
185F230	115/230V 50/60 Hz.	115V	1.14 A	33
185G230	115/230V 50/60 Hz.	115V	1.52 A	33
182D117	117/234V 50/60 Hz.	117V	0.128 A	35
182E117	117/234V 50/60 Hz.	117V	0.256 A	35
182G117	117/234V 50/60 Hz.	117V	0.428 A	35
182H117	117/234V 50/60 Hz.	117V	0.684 A	35
182J117	117/234V 50/60 Hz.	117V	1.02 A	35
182K117	117/234V 50/60 Hz.	117V	1.37 A	35
182L117	117/234V 50/60 Hz.	117V	1.92 A	35
182M117	117/234V 50/60 Hz.	117V	2.56 A	35
182N117	117/234V 50/60 Hz.	117V	4.28 A	35
182P117	117/234V 50/60 Hz.	117V	5.34 A	35
182Q117	117/234V 50/60 Hz.	117V	6.42 A	35
182R117	117/234V 50/60 Hz.	117V	8.5 A	35
182T117	117/234V 50/60 Hz.	117V	12.8 A	35
160D120	115/230V 50/60 Hz.	120V C.T.	0.008 A	12
161D120	115V 60 Hz.	120V C.T.	0.008 A	12
160E120	115/230V 50/60 Hz.	120V C.T.	0.01 A	12
162D120	115/230V 50/60 Hz.	120V C.T.	0.01 A	14
164D120	115V 50/60 Hz.	120V C.T.	0.01 A	14
161E120	115V 60 Hz.	120V C.T.	0.01 A	12
162E120	115/230V 50/60 Hz.	120V C.T.	0.02 A	14
229E120	115/230V 50/60 Hz.	120V C.T.	0.02 A	17
164E120	115V 50/60 Hz.	120V C.T.	0.02 A	14
187A120	115V 50/60 Hz.	120V C.T.	0.02 A	29
262B24	115V 60 Hz.	120V	0.027 A	37
160F120	115/230V 50/60 Hz.	120V C.T.	0.035 A	12
161F120	115V 60 Hz.	120V C.T.	0.035 A	12
262B6	115V 60 Hz.	120V	0.043 A	37
262B12	115V 60 Hz.	120V	0.045 A	37
162F120	115/230V 50/60 Hz.	120V C.T.	0.05 A	14
229A120	115/230V 50/60 Hz.	120V C.T.	0.05 A	17
186B120	115/230V 50/60 Hz.	120V C.T.	0.05 A	29
164F120	115V 50/60 Hz.	120V C.T.	0.05 A	14
187B120	115V 50/60 Hz.	120V C.T.	0.05 A	29
262D6	115V 60 Hz.	120V	0.053 A	37
262D12	115V 60 Hz.	120V	0.053 A	37
160G120	115/230V 50/60 Hz.	120V C.T.	0.085 A	12
161G120	115V 60 Hz.	120V C.T.	0.085 A	12
262E6	115V 60 Hz.	120V	0.087 A	37
262E12	115V 60 Hz.	120V	0.087 A	37
162G120	115/230V 50/60 Hz.	120V C.T.	0.1 A	14
229B120	115/230V 50/60 Hz.	120V C.T.	0.1 A	17
186C120	115/230V 50/60 Hz.	120V C.T.	0.1 A	29
164G120	115V 50/60 Hz.	120V C.T.	0.1 A	14
187C120	115V 50/60 Hz.	120V C.T.	0.1 A	29
262F6	115V 60 Hz.	120V	0.14 A	37
262F12	115V 60 Hz.	120V	0.14 A	37
162H120	115/230V 50/60 Hz.	120V C.T.	0.16 A	14
164H120	115V 50/60 Hz.	120V C.T.	0.16 A	14
160H120	115/230V 50/60 Hz.	120V C.T.	0.2 A	12
161H120	115V 60 Hz.	120V C.T.	0.2 A	12
186D120	115/230V 50/60 Hz.	120V C.T.	0.25 A	29
187D120	115V 50/60 Hz.	120V C.T.	0.25 A	29
162J120	115/230V 50/60 Hz.	120V C.T.	0.3 A	14
164J120	115V 50/60 Hz.	120V C.T.	0.3 A	14
166F120	115V 60 Hz.	120V C.T.	0.3 A	22
186E120	115/230V 50/60 Hz.	120V C.T.	0.5 A	29
187E120	115V 50/60 Hz.	120V C.T.	0.5 A	29
167G120	115V 60 Hz.	120V C.T.	0.5 A	31
186F120	115/230V 50/60 Hz.	120V C.T.	0.85 A	29
187F120	115V 50/60 Hz.	120V C.T.	0.85 A	29
182L60	117/234V 50/60 Hz.	120V C.T.	2.5 A	35
182N60	117/234V 50/60 Hz.	120V C.T.		

A.C. Secondary Voltage - Selection Guide

Power

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
182Q60	117/234V 50/60 Hz.	120V C.T.	6.25 A	35
182R60	117/234V 50/60 Hz.	120V C.T.	8.3 A	35
182T60	117/234V 50/60 Hz.	120V C.T.	12.5 A	35
263AX	115V 60 Hz.	200V C.T.	0.1 A	39
363AX	Universal 50/60 Hz.	200V C.T.	0.1 A	41
167H200	115V 60 Hz.	200V C.T.	0.87 A	31
261M6	115V 60 Hz.	215V	0.269 A	37
182D110	117/234V 50/60 Hz.	220V C.T.	0.068 A	35
182E110	117/234V 50/60 Hz.	220V C.T.	0.136 A	35
182G110	117/234V 50/60 Hz.	220V C.T.	0.227 A	35
182H110	117/234V 50/60 Hz.	220V C.T.	0.364 A	35
182J110	117/234V 50/60 Hz.	220V C.T.	0.545 A	35
182K110	117/234V 50/60 Hz.	220V C.T.	0.727 A	35
182L110	117/234V 50/60 Hz.	220V C.T.	1.02 A	35
182M110	117/234V 50/60 Hz.	220V C.T.	1.36 A	35
182P110	117/234V 50/60 Hz.	220V C.T.	2.27 A	35
182Q110	117/234V 50/60 Hz.	220V C.T.	2.84 A	35
182R110	117/234V 50/60 Hz.	220V C.T.	3.41 A	35
182S110	117/234V 50/60 Hz.	220V C.T.	4.5 A	35
182U110	117/234V 50/60 Hz.	220V C.T.	6.8 A	35
229E230	115/230V 50/60 Hz.	230V C.T.	0.01 A	17
229A230	115/230V 50/60 Hz.	230V C.T.	0.025 A	17
229B230	115/230V 50/60 Hz.	230V C.T.	0.05 A	17
185C230	115/230V 50/60 Hz.	230V C.T.	0.11 A	33
185D230	115/230V 50/60 Hz.	230V C.T.	0.19 A	33
185E230	115/230V 50/60 Hz.	230V C.T.	0.35 A	33
185F230	115/230V 50/60 Hz.	230V C.T.	0.57 A	33
185G230	115/230V 50/60 Hz.	230V C.T.	0.76 A	33
182D117	117/234V 50/60 Hz.	234V C.T.	0.064 A	35
182E117	117/234V 50/60 Hz.	234V C.T.	0.128 A	35
182G117	117/234V 50/60 Hz.	234V C.T.	0.214 A	35
182H117	117/234V 50/60 Hz.	234V C.T.	0.342 A	35
182J117	117/234V 50/60 Hz.	234V C.T.	0.513 A	35
182K117	117/234V 50/60 Hz.	234V C.T.	0.684 A	35
182L117	117/234V 50/60 Hz.	234V C.T.	0.96 A	35
182M117	117/234V 50/60 Hz.	234V C.T.	1.28 A	35
182N117	117/234V 50/60 Hz.	234V C.T.	2.14 A	35
182P117	117/234V 50/60 Hz.	234V C.T.	2.67 A	35
182Q117	117/234V 50/60 Hz.	234V C.T.	3.21 A	35
182R117	117/234V 50/60 Hz.	234V C.T.	4.3 A	35
182T117	117/234V 50/60 Hz.	234V C.T.	6.4 A	35
182B240	117/234V 50/60 Hz.	240V	0.063 A	35
182D240	117/234V 50/60 Hz.	240V	0.125 A	35
182E240	117/234V 50/60 Hz.	240V	0.208 A	35
182F240	117/234V 50/60 Hz.	240V	0.333 A	35
182G240	117/234V 50/60 Hz.	240V	0.5 A	35
182H240	117/234V 50/60 Hz.	240V	0.667 A	35
182J240	117/234V 50/60 Hz.	240V	0.94 A	35
182K240	117/234V 50/60 Hz.	240V	1.25 A	35
182L240	117/234V 50/60 Hz.	240V	2.08 A	35
182M240	117/234V 50/60 Hz.	240V	2.6 A	35
182N240	117/234V 50/60 Hz.	240V	3.13 A	35
182P240	117/234V 50/60 Hz.	240V	4.17 A	35
182Q240	117/234V 50/60 Hz.	240V	6.3 A	35
269AX	115V 60 Hz.	250V C.T.	0.1 A	39
261C6	115V 60 Hz.	250V C.T.	0.045 A	37
261E6	115V 60 Hz.	250V C.T.	0.091 A	37
369AX	Universal 50/60 Hz.	250V C.T.	0.1 A	41
369AXP	Universal 50/60 Hz.	250V C.T.	0.1 A	43
261G6	115V 60 Hz.	250V C.T.	0.13 A	37
269BX	115V 60 Hz.	300V C.T.	0.075 A	39
369BX	Universal 50/60 Hz.	300V C.T.	0.075 A	41
263CX	115V 60 Hz.	360V C.T.	0.25 A	39
363CX	Universal 50/60 Hz.	360V C.T.	0.25A	41
269EX	115V 60 Hz.	380V C.T.	0.065 A	39
369EX	Universal 50/60 Hz.	380V C.T.	0.065 A	41
260A	Universal 50/60 Hz.	400V C.T.	0.04 A	36
260E	Universal 50/60 Hz.	450V C.T.	0.1 A	36
269GX	115V 60 Hz.	450V C.T.	0.065 A	39
369GX	Universal 50/60 Hz.	450V C.T.	0.065 A	41
369GXP	Universal 50/60 Hz.	450V C.T.	0.065 A	43
270X	115V 60 Hz.	480V C.T.	0.04 A	39
370X	Universal 50/60 Hz.	480V C.T.	0.04 A	41
370XP	Universal 50/60 Hz.	480V C.T.	0.04 A	43
270AX	115V 60 Hz.	480V C.T.	0.05 A	39
370AX	Universal 50/60 Hz.	480V C.T.	0.05 A	41
269JX	115V 60 Hz.	500V C.T.	0.06 A	39
369JX	Universal 50/60 Hz.	500V C.T.	0.06 A	41
369JXP	Universal 50/60 Hz.	500V C.T.	0.06 A	43
270CAX	117V 50/60 Hz.	500V C.T.	0.07 A	39
370CAX	Universal 50/60 Hz.	500V C.T.	0.07 A	41
370CAXP	Universal 50/60 Hz.	500V C.T.	0.07 A	43
260C	Universal 50/60 Hz.	500V C.T.	0.075 A	36
270DAX	117V 50/60 Hz.	520V C.T.	0.09 A	39
270DAZ	117V 60 Hz.	520V C.T.	0.09 A	39
370DAX	Universal 50/60 Hz.	520V C.T.	0.09 A	41
370DAZ	Universal 50/60 Hz.	520V C.T.	0.09 A	41
370DAXP	Universal 50/60 Hz.	520V C.T.	0.09 A	43
270BX	115V 60 Hz.	550V C.T.	0.05 A	39
370BX	Universal 50/60 Hz.	550V C.T.	0.05 A	41
270CX	115V 60 Hz.	550V C.T.	0.065 A	39
370CX	Universal 50/60 Hz.	550V C.T.	0.065 A	41
270DX	115V 60 Hz.	550V C.T.	0.09 A	39
370DX	Universal 50/60 Hz.	550V C.T.	0.09 A	41
370DXP	Universal 50/60 Hz.	550V C.T.	0.09 A	43
270EX	115V 60 Hz.	550V C.T.	0.125 A	39
370EX	Universal 50/60 Hz.	550V C.T.	0.125 A	41
370EXP	Universal 50/60 Hz.	550V C.T.	0.125 A	43
270FX	115V 60 Hz.	550V C.T.	0.15 A	39
370FX	Universal 50/60 Hz.	550V C.T.	0.15 A	41

Part No.	Primary (VAC)	Secondary (R.M.S.)		Page
		VAC	Current	
370FXP	Universal 50/60 Hz.	550V C.T.	0.15 A	43
270HX	115V 60 Hz.	550V C.T.	0.2 A	39
260G	Universal 50/60 Hz.	550V C.T.	0.2 A	36
370HX	Universal 50/60 Hz.	550V C.T.	0.2 A	41
370HXP	Universal 50/60 Hz.	550V C.T.	0.2 A	43
271X	115V 60 Hz.	560V C.T.	0.06 A	39
371X	Universal 50/60 Hz.	560V C.T.	0.06 A	41
272BX	115V 60 Hz.	600V C.T.	0.1 A	39
372BX	Universal 50/60 Hz.	600V C.T.	0.1 A	41
272DX	115V 60 Hz.	600V C.T.	0.125 A	39
372DX	Universal 50/60 Hz.	600V C.T.	0.125 A	41
272FX	115V 60 Hz.	600V C.T.	0.15 A	39
372FX	Universal 50/60 Hz.	600V C.T.	0.15 A	41
372FXP	Universal 50/60 Hz.	600V C.T.	0.15 A	43
272HX	115V 60 Hz.	600V C.T.	0.2 A	39
302AX	Universal 50/60 Hz.	600V C.T.	0.2 A	41
372HX	Universal 50/60 Hz.	600V C.T.	0.2 A	41
372HXP	Universal 50/60 Hz.	600V C.T.	0.2 A	43
272JX	115V 60 Hz.	600V C.T.	0.25 A	39
372JX	Universal 50/60 Hz.	600V C.T.	0.25 A	41
372JXP	Universal 50/60 Hz.	600V C.T.	0.25 A	43
272X	115V 60 Hz.	620V C.T.	0.07 A	39
372X	Universal 50/60 Hz.	620V C.T.	0.07 A	41
372XP	Universal 50/60 Hz.	620V C.T.	0.07 A	43
276X	115V 60 Hz.	640V C.T.	0.15 A	39
376X	Universal 50/60 Hz.	640V C.T.	0.15 A	41
376XP	Universal 50/60 Hz.	640V C.T.	0.15 A	43
273AZ	117V 50/60 Hz.	650V C.T.	0.04 A	39
373AZ	Universal 50/60 Hz.	650V C.T.	0.04 A	41
273CZ	117V 50/60 Hz.	650V C.T.	0.15 A	39
260J	Universal 50/60 Hz.	650V C.T.	0.15 A	36
373CZ	Universal 50/60 Hz.	650V C.T.	0.15 A	41
260K	Universal 50/60 Hz.	650V C.T.	0.2 A	36
273DX	117V 50/60 Hz.	700V C.T.	0.09 A	39
273DZ	117V 50/60 Hz.	700V C.T.	0.09 A	39
373DX	Universal 50/60 Hz.	700V C.T.	0.09 A	41
373DZ	Universal 50/60 Hz.	700V C.T.	0.09 A	41
273X	115V 60 Hz.	700V C.T.	0.11 A	39
373X	Universal 50/60 Hz.	700V C.T.	0.11 A	41
373XP	Universal 50/60 Hz.	700V C.T.	0.11 A	43
273BX	115V 60 Hz.	700V C.T.	0.175 A	39
373BX	Universal 50/60 Hz.	700V C.T.	0.175 A	41
260M	Universal 50/60 Hz.	700V C.T.	0.25 A	36
274AX	117V 50/60 Hz.	720V C.T.	0.12 A	39
374AX	Universal 50/60 Hz.	720V C.T.	0.12 A	41
374AXP	Universal 50/60 Hz.	720V C.T.	0.12 A	43
274X	115V 60 Hz.	750V C.T.	0.11 A	39
374X	Universal 50/60 Hz.	750V C.T.	0.11 A	41
374XP	Universal 50/60 Hz.	750V C.T.	0.11 A	43
274BX	115V 60 Hz.	750V C.T.	0.175 A	39
374BX	Universal 50/60 Hz.	750V C.T.	0.175 A	41
374BXP	Universal 50/60 Hz.	750V C.T.	0.175 A	43
710	115V 50/60 Hz.	750V C.T.	0.3 A	44
275X	115V 60 Hz.	800V C.T.	0.135 A	39
375X	Universal 50/60 Hz.	800V C.T.	0.135 A	41
375XP	Universal 50/60 Hz.	800V C.T.	0.135 A	43
278X	115V 60 Hz.	800V C.T.	0.2 A	39
378X	Universal 50/60 Hz.	800V C.T.	0.2 A	41
300BX	Universal 50/60 Hz.	800V C.T.	0.25 A	41
278CX	115V 60 Hz.	800V C.T.	0.465 A	39
378CX	Universal 50/60 Hz.	800V C.T.	0.465 A	41
279X	115V 60 Hz.	850V C.T.	0.15 A	39
379X	Universal 50/60 Hz.	850V C.T.	0.15 A	41
712	115V 50/60 Hz.	850V C.T.	0.3 A	44
282X	115V 60 Hz.	1000V C.T.	0.2 A	39
382X	Universal 50/60 Hz.	1000V C.T.	0.2 A	41
714	115V 50/60 Hz.	1020V C.T.	0.17 A	44
715	115V 50/60 Hz.	1020V C.T.	0.3 A	44
717	115V 50/60 Hz.	1020V C.T.	0.5 A	44
718	115V 50/60 Hz.	1250V C.T.	0.2 A	44
720	115V 50/60 Hz.	1250V C.T.	0.3 A	44
722	115V 50/60 Hz.	1250V C.T.	0.5 A	44
724	115V 50/60 Hz.	1500V C.T.	0.2 A	44
726	115V 50/60 Hz.	1780V C.T.	0.175 A	44
728	115V 50/60 Hz.	2000V C.T.	0.15 A	44
732	115V 50/60 Hz.	2500V C.T.	0.2 A	44
733	115V 50/60 Hz.	2500V C.T.	0.3 A	44
735	115V 50/60 Hz.	3000V C.T.	0.25 A	44
737	115V 50/60 Hz.	3000V C.T.	0.4 A	44
739	115V 50/60 Hz.	3500V C.T.	0.4 A	44

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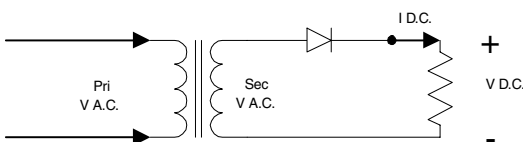
Transformer Voltage: A transformer's required secondary A.C. voltage varies greatly with the type of rectifier chosen and filter arrangement. Use the formulas below as a guide based on the D.C. voltage you require and the rectifier/filter chosen. All A.C. voltage references are R.M.S. Don't forget to take into account losses (not included in this guide), especially diode voltage drop. Leave an adequate safety margin for D.C. regulator voltage requirements and minimum operating line voltage.

Transformer Current Ratings: A transformer's A.C. current rating needs to be recalculated from the D.C. load current. The required current varies with type of rectifier chosen and filter type. Use the formulas below as a guide, shown for common D.C. supplies. Included in the formulas higher peak to peak capacitor charging current in the filter.

Rectifier Selection Notes: When selecting rectifiers remember, average current in a full wave circuit is .5 x I D.C. per diode. In a half wave circuit, average current is equal to I D.C. per diode. A rating at least twice the output current is recommended to cover turn on surge. In full wave circuits, the reverse voltage rating should be in excess of 1.4 x V A.C. In half wave circuits, the reverse voltage rating should be in excess of 2.8 x V A.C.

Capacitor Selection Notes: When choosing capacitor voltage, allowances should be made for D.C. voltage rise due to transformer regulation. Remember, R.M.S. ripple current in a filter capacitor can be 2 to 3 times D.C. load current. Capacitor life is greatly increased by reducing it's temperature via less R.M.S. current or reduced ambient temperature.

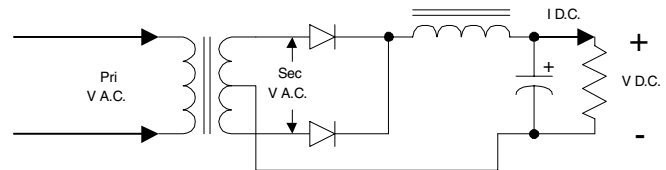
HALF WAVE Resistive Load



$$V \text{ D.C.} = 0.45 \times \text{Sec. V A.C.}$$

$$I \text{ D.C.} = 0.64 \times \text{Sec. I A.C.}$$

FULL WAVE Choke Input Load

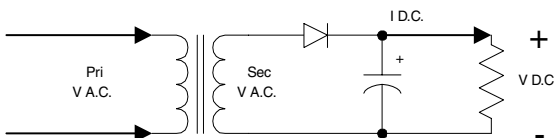


$$V \text{ (Peak) D.C.} = 0.45 \times \text{Sec. V A.C.}$$

$$V \text{ (Avg) D.C.} = 0.45 \times \text{Sec. V A.C.}$$

$$I \text{ D.C.} = 1.54 \times \text{Sec. I A.C.}$$

HALF WAVE Capacitor Input Load

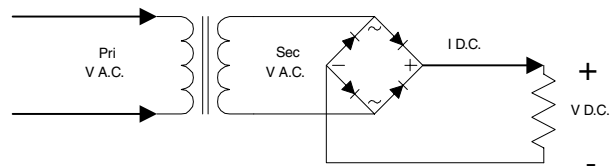


$$V \text{ (Peak) D.C.} = 1.41 \times \text{Sec. V A.C.}$$

$$V \text{ (Avg) D.C.} = 0.90 \times \text{Sec. V A.C.}$$

$$I \text{ D.C.} = 0.28 \times \text{Sec. I A.C.}$$

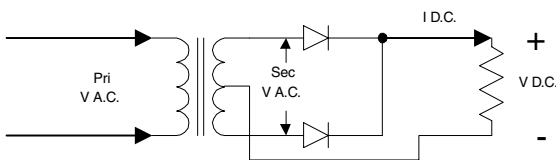
FULL WAVE BRIDGE Resistive Load



$$V \text{ D.C.} = 0.90 \times \text{Sec. V A.C.}$$

$$I \text{ D.C.} = 0.90 \times \text{Sec. I A.C.}$$

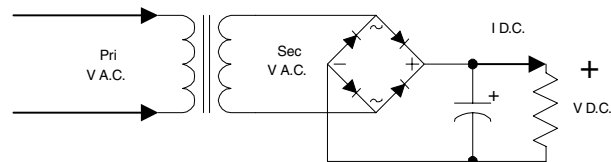
FULL WAVE Resistive Load



$$V \text{ D.C.} = 0.45 \times \text{Sec. V A.C.}$$

$$I \text{ D.C.} = 1.27 \times \text{Sec. I A.C.}$$

FULL WAVE BRIDGE Capacitor Input Load

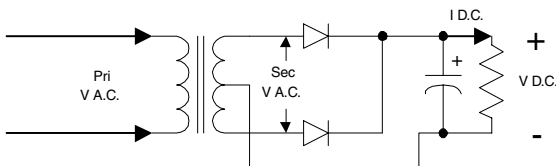


$$V \text{ (Peak) D.C.} = 1.41 \times \text{Sec. V A.C.}$$

$$V \text{ (Avg) D.C.} = 0.90 \times \text{Sec. V A.C.}$$

$$I \text{ D.C.} = 0.62 \times \text{Sec. I A.C.}$$

FULL WAVE Capacitor Input Load

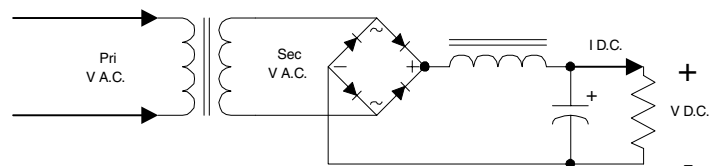


$$V \text{ (Peak) D.C.} = 0.71 \times \text{Sec. V A.C.}$$

$$V \text{ (Avg) D.C.} = 0.45 \times \text{Sec. V A.C.}$$

$$I \text{ D.C.} = 1.00 \times \text{Sec. I A.C.}$$

FULL WAVE BRIDGE Choke Input Load



$$V \text{ (Peak) D.C.} = 0.90 \times \text{Sec. V A.C.}$$

$$V \text{ (Avg) D.C.} = 0.90 \times \text{Sec. V A.C.}$$

$$I \text{ D.C.} = 0.94 \times \text{Sec. I A.C.}$$

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Low Voltage - P.C. Board Mount (160/161 Series)

Power



LOW VOLTAGE - P.C. BOARD VERTICAL MOUNT

- 20 output voltages to choose from (5 - 120VAC R.M.S.)
- Six VA size models available from - .5 to 24 VA
- Vertical mount, split bobbin design.
- Dual winding secondaries, non-concentrically wound
- Low primary to secondary coupling - no electrostatic shield required.
- Choice of economical single primary 115V - 60 Hz only (161 series) or the universal dual primary 115/230V - 50/60 Hz (160 series).
- High insulation - Hipot of 2,000V RMS.
- Class B insulation - 130 degrees C.
- CSA certified and UL recognized.



Part No. Single Pri. 115V	Part No. Dual Pri. 115/230V	Size VA	Secondary (RMS)	
			Series	Parallel
161C10	-	0.5	10V C.T. @ 50ma	5V @ 100ma
161D10	160D10	1	10V C.T. @ 90ma	5V @ 180ma
161FA10	160F10	1.2	10V C.T. @ 120ma	5V @ 240ma
161GA10	160G10	4.4	10V C.T. @ 440ma	5V @ 880ma
161J10	160J10	10	10V C.T. @ 1A	5V @ 2A
161H10	160H10	24	10V C.T. @ 2.4A	5V @ 4.8A
161C12	-	0.5	12.6V C.T. @ 40ma	6.3V @ 80ma
161D12	160D12	1	12.6V C.T. @ 70ma	6.3V @ 140ma
161FA12	160F12	1.2	12.6V C.T. @ 100ma	6.3V @ 200ma
161GA12	160G12	4.4	12.6V C.T. @ 350ma	6.3V @ 700ma
161K12	160K12	10	12.6V C.T. @ 800ma	6.3V @ 1.6A
161H12	160H12	24	12.6V C.T. @ 2A	6.3V @ 4A
161C16	-	0.5	16V C.T. @ 31.3ma	8V @ 62.5ma
161D16	160D16	1	16V C.T. @ 55ma	8V @ 110ma
161EA16	160E16	1.2	16V C.T. @ 75ma	8V @ 150ma
161FA16	160F16	4.4	16V C.T. @ 260ma	8V @ 520ma
161G16	160G16	10	16V C.T. @ 640ma	8V @ 1.28A
161H16	160H16	24	16V C.T. @ 1.5A	8V @ 3A
161D20	160D20	1	20V C.T. @ 45ma	10V @ 90ma
161EA20	160E20	1.2	20V C.T. @ 60ma	10V @ 120ma
161FA20	160F20	4.4	20V C.T. @ 220ma	10V @ 440ma
161G20	160G20	10	20V C.T. @ 500ma	10V @ 1A
161H20	160H20	24	20V C.T. @ 1.2A	10V @ 2.4A
161D24	160D24	1	24V C.T. @ 35ma	12V @ 70ma
161E24	160E24	1.2	24V C.T. @ 50ma	12V @ 100ma
161F24	160F24	4.4	24V C.T. @ 180ma	12V @ 360ma
161G24	160G24	10	24V C.T. @ 450ma	12V @ 900ma
161H24	160H24	24	24V C.T. @ 1A	12V @ 2A
161D28	160D28	1	28V C.T. @ 30ma	14V @ 60ma
161E28	160E28	1.2	28V C.T. @ 40ma	14V @ 80ma
161F28	160F28	4.4	28V C.T. @ 160ma	14V @ 320ma
161G28	160G28	10	28V C.T. @ 360ma	14V @ 720ma
161H28	160H28	24	28V C.T. @ 800ma	14V @ 1.6A
161D34	160D34	1	34V C.T. @ 25ma	17V @ 50ma
161E34	160E34	1.2	34V C.T. @ 35ma	17V @ 70ma
161F34	160F34	4.4	34V C.T. @ 125ma	17V @ 250ma
161G34	160G34	10	34V C.T. @ 300ma	17V @ 600ma
161H34	160H34	24	34V C.T. @ 700ma	17V @ 1.4A
161D40	160D40	1	40V C.T. @ 20ma	20V @ 40ma
161E40	160E40	1.2	40V C.T. @ 30ma	20V @ 60ma
161F40	160F40	4.4	40V C.T. @ 110ma	20V @ 220ma
161G40	160G40	10	40V C.T. @ 250ma	20V @ 500ma
161H40	160H40	24	40V C.T. @ 600ma	20V @ 1.2A
161D56	160D56	1	56V C.T. @ 15ma	28V @ 30ma
161E56	160E56	1.2	56V C.T. @ 20ma	28V @ 40ma
161F56	160F56	4.4	56V C.T. @ 80ma	28V @ 160ma
161G56	160G56	10	56V C.T. @ 180ma	28V @ 360ma
161H56	160H56	24	56V C.T. @ 420ma	28V @ 840ma
161D120	160D120	1	120V C.T. @ 8ma	60V @ 16ma
161E120	160E120	1.2	120V C.T. @ 10ma	60V @ 20ma
161F120	160F120	4.4	120V C.T. @ 35ma	60V @ 70ma
161G120	160G120	10	120V C.T. @ 85ma	60V @ 170ma
161H120	160H120	24	120V C.T. @ 200ma	60V @ 400ma



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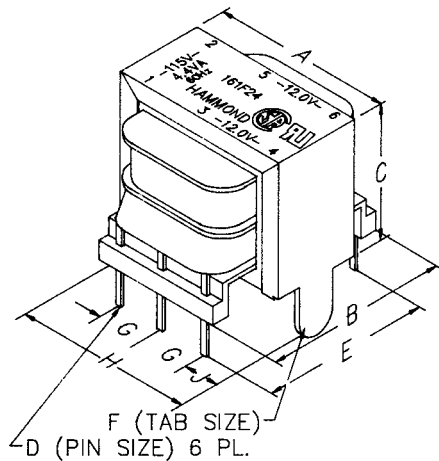
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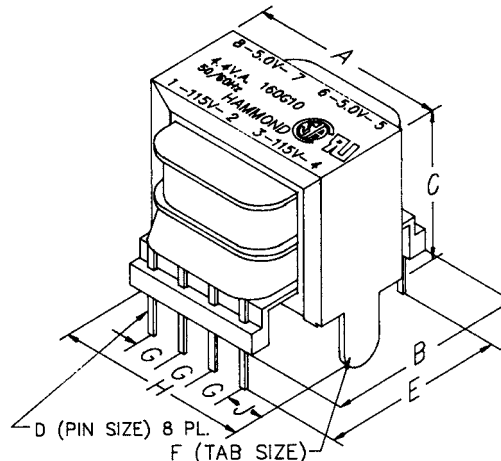
Low Voltage - P.C. Board Mount (160/161 Series)

Power

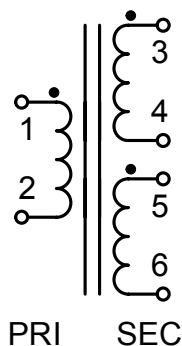
Single Primary - 161 Series



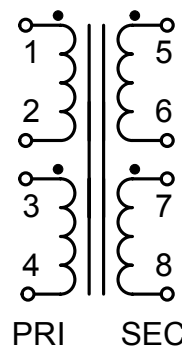
Dual Primary - 160 Series



Single Primary - 161 Series Schematic



Dual Primary - 160 Series Schematic



Single Primary - Dimension Table

(VA) Size	Dimensions (Inches)								
	A	B	C	D	E	F	G	H	J
0.5	1.00	0.94	0.84	0.25 sq.	0.78	N/A	0.20	N/A	N/A
1	1.00	1.38	0.83	.018 x .041	1.20	N/A	0.20	N/A	N/A
1.2	1.38	1.19	1.22	.018 x .041	1.00	N/A	0.31	N/A	N/A
4.4	1.69	1.25	1.45	.018 x .041	1.10	.125 x .03	0.40	1.67	0.44
10	1.94	1.44	1.69	.018 x .041	1.30	.188 x .03	0.40	1.89	0.55
24	1.63	2.25	1.38	.018 x .041	2.10	N/A	0.40	N/A	N/A

Dual Primary - Dimension Table

(VA) Size	Dimensions (Inches)								
	A	B	C	D	E	F	G	H	J
1	1.00	1.38	0.83	.018 x .041	1.20	N/A	0.20	N/A	N/A
1.2	1.38	1.19	1.22	.018 x .041	1.00	N/A	0.20	N/A	N/A
4.4	1.69	1.25	1.45	.018 x .041	1.10	.125 x .03	0.25	1.67	0.46
10	1.94	1.44	1.69	.018 x .041	1.30	.188 x .03	0.25	1.89	0.57
24	1.63	2.25	1.38	.018 x .041	2.10	N/A	0.25	N/A	N/A

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Low Voltage - P.C. Board Mount (162/164 Series)

Power



LOW VOLTAGE - P.C. BOARD MOUNT LOW PROFILE

- 20 output voltages to choose from (5 - 120VAC R.M.S.)
- Six VA size models available from - 1.1 to 36VA
- Both series operate on 50/60 Hz current
- Low profile, split bobbin design.
- Dual winding secondaries, non-concentrically wound
- Units are designed so that all windings must be used
- Low primary to secondary coupling - no electrostatic shield required.
- Choice of economical single primary 115V (164 series) or universal dual primary 115/230V (162 series) - either model 50/60 Hz operation.
- High insulation - Hipot of 2,500V RMS.
- Class B insulation - 130 degrees C.
- No mounting hardware required on 1.1 and 2.4 VA sizes, two hole mounting on 6, 12 and 20VA sizes, four hole mounting on 36VA size (mounting screws not provided). P.C. board mount with industry standard pin spacing.
- C UL US recognized



Part No. Single Pri. 115V	Part No. Dual Pri. 115/230V	Size VA	Secondary (RMS)	
			Series	Parallel
164D10	162D10	1.1	10V C.T. @ .11A	5V @ .22A
164E10	162E10	2.4	10V C.T. @ .25A	5V @ .5A
164F10	162F10	6	10V C.T. @ .6A	5V @ 1.2A
164G10	162G10	12	10V C.T. @ 1.2A	5V @ 2.4A
164H10	162H10	20	10V C.T. @ 2A	5V @ 4A
164J10	162J10	36	10V C.T. @ 3.6A	5V @ 7.2A
164D12	162D12	1.1	12.6V C.T. @ .09A	6.3V @ .18A
164E12	162E12	2.4	12.6V C.T. @ .2A	6.3V @ .4A
164F12	162F12	6	12.6V C.T. @ .5A	6.3V @ 1A
164G12	162G12	12	12.6V C.T. @ 1A	6.3V @ 2A
164H12	162H12	20	12.6V C.T. @ 1.6A	6.3V @ 3.2A
164J12	162J12	36	12.6V C.T. @ 2.85A	6.3V @ 5.7A
164D16	162D16	1.1	16V C.T. @ .07A	8V @ .14A
164E16	162E16	2.4	16V C.T. @ .15A	8V @ .3A
164F16	162F16	6	16V C.T. @ .4A	8V @ .8A
164G16	162G16	12	16V C.T. @ .8A	8V @ 1.6A
164H16	162H16	20	16V C.T. @ 1.25A	8V @ 2.5A
164J16	162J16	36	16V C.T. @ 2.25A	8V @ 4.5A
164D20	162D20	1.1	20V C.T. @ .055A	10V @ .11A
164E20	162E20	2.4	20V C.T. @ .12A	10V @ .24A
164F20	162F20	6	20V C.T. @ .3A	10V @ .6A
164G20	162G20	12	20V C.T. @ .6A	10V @ 1.2A
164H20	162H20	20	20V C.T. @ 1A	10V @ 2A
164J20	162J20	36	20V C.T. @ 1.8A	10V @ 3.6A
164D24	162D24	1.1	24V C.T. @ .045A	12V @ .09A
164E24	162E24	2.4	24V C.T. @ .1A	12V @ .2A
164F24	162F24	6	24V C.T. @ .25A	12V @ .5A
164G24	162G24	12	24V C.T. @ .5A	12V @ 1A
164H24	162H24	20	24V C.T. @ .8A	12V @ 1.6A
164J24	162J24	36	24V C.T. @ 1.5A	12V @ 3A
164D28	162D28	1.1	28V C.T. @ .04A	14V @ .08A
164E28	162E28	2.4	28V C.T. @ .085A	14V @ .17A
164F28	162F28	6	28V C.T. @ .2A	14V @ .4A
164G28	162G28	12	28V C.T. @ .42A	14V @ .84A
164H28	162H28	20	28V C.T. @ .7A	14V @ 1.4A
164J28	162J28	36	28V C.T. @ 1.3A	14V @ 2.6A
164D36	162D36	1.1	36V C.T. @ .03A	18V @ .06A
164E36	162E36	2.4	36V C.T. @ .065A	18V @ .13A
164F36	162F36	6	36V C.T. @ .17A	18V @ .34A
164G36	162G36	12	36V C.T. @ .35A	18V @ .7A
164H36	162H36	20	36V C.T. @ .55A	18V @ 1.1A
164J36	162J36	36	36V C.T. @ 1A	18V @ 2A
164D48	162D48	1.1	48V C.T. @ .023A	24V @ .046A
164E48	162E48	2.4	48V C.T. @ .05A	24V @ .1A
164F48	162F48	6	48V C.T. @ .125A	24V @ .25A
164G48	162G48	12	48V C.T. @ .25A	24V @ .5A
164H48	162H48	20	48V C.T. @ .4A	24V @ .8A
164J48	162J48	36	48V C.T. @ .75A	24V @ 1.5A
164D56	162D56	1.1	56V C.T. @ .02A	28V @ .04A
164E56	162E56	2.4	56V C.T. @ .045A	28V @ .09A
164F56	162F56	6	56V C.T. @ .11A	28V @ .22A
164G56	162G56	12	56V C.T. @ .22A	28V @ .44A
164H56	162H56	20	56V C.T. @ .35A	28V @ .7A
164J56	162J56	36	56V C.T. @ .65A	28V @ 1.3A
164D120	162D120	1.1	120V C.T. @ .01A	60V @ .02A
164E120	162E120	2.4	120V C.T. @ .02A	60V @ .04A
164F120	162F120	6	120V C.T. @ .05A	60V @ .1A
164G120	162G120	12	120V C.T. @ .1A	60V @ .2A
164H120	162H120	20	120V C.T. @ .16A	60V @ .32A
164J120	162J120	36	120V C.T. @ .3A	60V @ .6A



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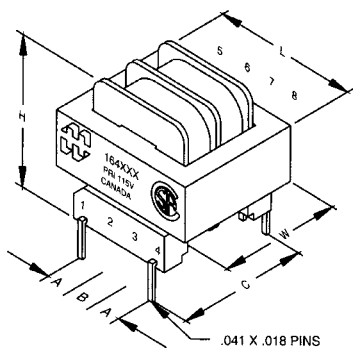
EUROPE
Basingstoke, UK 01256 812812

AUSTRALIA
Queenstown, Australia 61-8-8240-2244

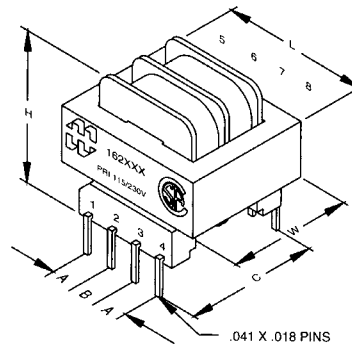
Low Voltage - P.C. Board Mount (162/164 Series)

Power

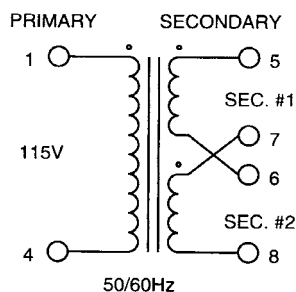
Single Primary - 164 Series



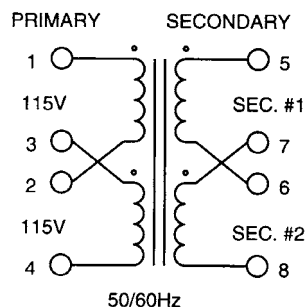
Dual Primary - 162 Series



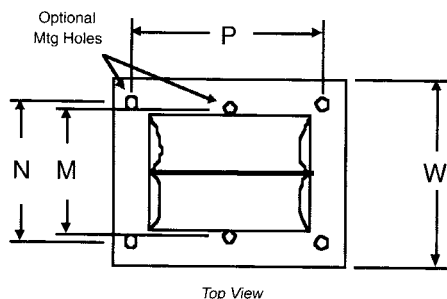
Single Primary - 164 Series Schematic



Dual Primary - 162 Series Schematic



164 & 162 Series - Common Mounting Hole Drawing (6, 12, 20 & 36 VA units)



164 & 162 Series Common Dimension Table

VA Size	Part Number Letter	Dimensions (Inches)									Mtg. Screw	Lbs.
		L	W	H	A	B	C	M	N	P		
1.1	"D"	1 3/8	1 1/8	1 5/16	.25	.25	1.20	--	--	--	--	0.17
2.4	"E"	1 3/8	1 1/8	1 3/16	.25	.25	1.20	--	--	--	--	0.25
6	"F"	1 5/8	1 5/16	1 5/16	.25	.35	1.28	1 1/16	--	--	#4	0.44
12	"G"	1 7/8	1 9/16	1 1/2	.30	.40	1.41	1 1/14	--	--	#4	0.70
20	"H"	2 1/4	1 7/8	1 7/16	.30	.40	1.60	1 1/2	--	--	#4	0.80
36	"J"	2 5/8	2 3/16	1 9/16	.40	.40	1.85	--	1 3/4	2 3/16	#6	1.10

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Low Voltage - P.C. Board Mount (183 Series)

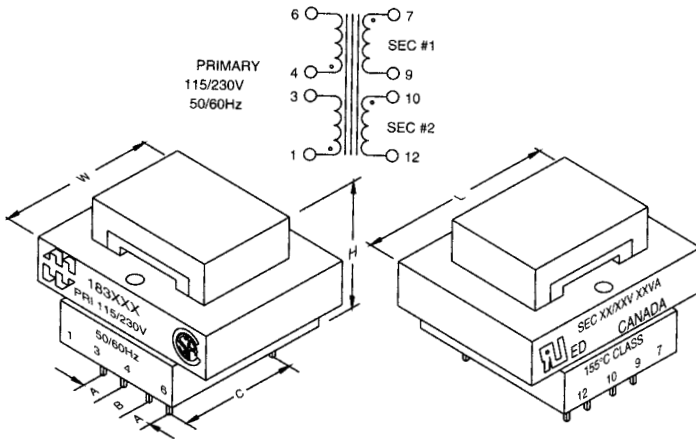
Power



LOW VOLTAGE - P.C. BOARD MOUNT UNIVERSAL

- 14 output voltages to choose from (5 - 36 VAC R.M.S.)
- Six VA size models available from - 2.5 to 56VA
- Universal operation on 50/60 Hz current, 115 or 230V dual primary
- Low profile, split bobbin with top shroud design.
- Dual winding secondaries, non-concentrically wound
- Low primary to secondary coupling - no electrostatic shield required.
- High insulation - Hipot of 4,000V RMS.
- Class F insulation - 155 degrees C.
- Two hole mounting on 2.5, 5, 10 and 20VA sizes, four hole mounting on 30 and 56VA size (mounting screws not provided).
- P.C. board mount with industry standard pin spacing.
- CSA certified (# LR3902) and UL recognized (# E50394).

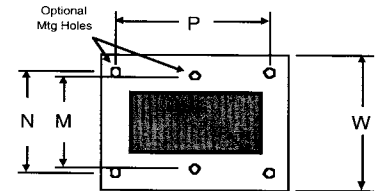
183 Series - Drawing & Schematic



Dimension Table

(VA) Size	Dimensions (Inches)									Pin Size (square)	Mtg. Screw	Lbs.
	L	W	H	A	B	C	M	N	P			
2.5	1 5/8	1 7/16	1 1/8	.20	.25	1.00	1 1/16	--	--	0.025"	#4	0.17
5	1 5/8	1 7/16	1 3/8	.20	.40	1.00	1 1/16	--	--	0.025"	#4	0.37
10	1 7/8	1 9/16	1 3/8	.20	.40	1.14	1 1/4	--	--	0.036"	#4	0.53
20	2 1/4	1 7/8	1 5/8	.40	.40	1.46	1 1/2	--	--	0.036"	#4	0.90
30	2 5/8	2 3/16	1 9/16	.55	.28	1.68	--	1 3/4	2 3/16	0.045"	#6	1.15
56	3	2 1/2	1 13/16	.60	.30	1.90	--	2	2 1/2	0.045"	#6	1.70

Part No. Dual Pri. 115/230V	Size VA	Secondary (RMS)	
		Series	Parallel
183E10	2.5	10V C.T. @ .25A	5V @ .5A
183F10	5	10V C.T. @ .5A	5V @ 1A
183G10	10	10V C.T. @ 1A	5V @ 2A
183H10	20	10V C.T. @ 2A	5V @ 4A
183J10	30	10V C.T. @ 3A	5V @ 6A
183K10	56	10V C.T. @ 5.6A	5V @ 11.2A
183E12	2.5	12.6V C.T. @ .2A	6.3V @ .4A
183F12	5	12.6V C.T. @ .4A	6.3V @ .8A
183G12	10	12.6V C.T. @ .8A	6.3V @ 1.6A
183H12	20	12.6V C.T. @ 1.6A	6.3V @ 3.2A
183J12	30	12.6V C.T. @ 2.4A	6.3V @ 4.8A
183K12	56	12.6V C.T. @ 4.4A	6.3V @ 8.8A
183E16	2.5	16V C.T. @ .15A	8V @ .3A
183F16	5	16V C.T. @ .31A	8V @ .62A
183G16	10	16V C.T. @ .625A	8V @ 1.25A
183H16	20	16V C.T. @ 1.25A	8V @ 2.5A
183J16	30	16V C.T. @ 1.9A	8V @ 3.8A
183K16	56	16V C.T. @ 3.5A	8V @ 7A
183E20	2.5	20V C.T. @ .12A	10V @ .24A
183F20	5	20V C.T. @ .25A	10V @ .5A
183G20	10	20V C.T. @ .5A	10V @ 1A
183H20	20	20V C.T. @ 1A	10V @ 2A
183J20	30	20V C.T. @ 1.5A	10V @ 3A
183K20	56	20V C.T. @ 2.8A	10V @ 5.6A
183E24	2.5	24V C.T. @ .1A	12V @ .2A
183F24	5	24V C.T. @ .21A	12V @ .42A
183G24	10	24V C.T. @ .42A	12V @ .84A
183H24	20	24V C.T. @ .83A	12V @ 1.66A
183J24	30	24V C.T. @ 1.25A	12V @ 2.5A
183K24	56	24V C.T. @ 2.33A	12V @ 4.66A
183E28	2.5	28V C.T. @ .09A	14V @ .18A
183F28	5	28V C.T. @ .18A	14V @ .36A
183G28	10	28V C.T. @ .36A	14V @ .72A
183H28	20	28V C.T. @ .72A	14V @ 1.44A
183J28	30	28V C.T. @ 1.06A	14V @ 2.12A
183K28	56	28V C.T. @ 2A	14V @ 4A
183E36	2.5	36V C.T. @ .07A	18V @ .14A
183F36	5	36V C.T. @ .14A	18V @ .28A
183G36	10	36V C.T. @ .28A	18V @ .56A
183H36	20	36V C.T. @ .56A	18V @ 1.12A
183J36	30	36V C.T. @ .82A	18V @ 1.64A
183K36	56	36V C.T. @ 1.56A	18V @ 3.12A



Mounting Hole Drawing



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Low Voltage - P.C. Board Mount (229 Series)

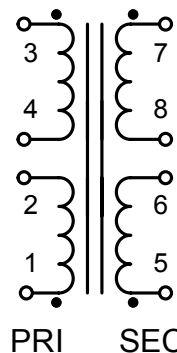
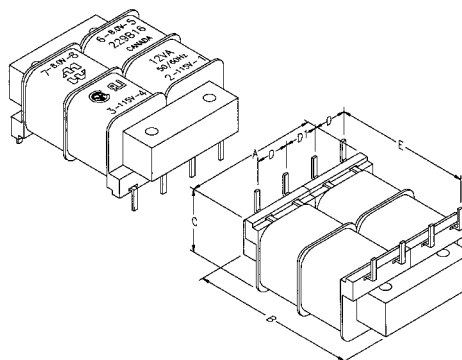
Power

Part No. Dual Pri. 115/230V	Size (VA)	Secondary (RMS)	
		Series	Parallel
229E10	2	10V C.T. @ 250ma	5V @ 500ma
229A10	6	10V C.T. @ 600ma	5V @ 1.2A
229B10	12	10V C.T. @ 1.2A	5V @ 2.4A
229C10	24	10V C.T. @ 2.4A	5V @ 4.8A
229D10	48	10V C.T. @ 4.8A	5V @ 9.6A
229E12	2	12.6V C.T. @ 200ma	6.3V @ 400ma
229A12	6	12.6V C.T. @ 450ma	6.3V @ 900ma
229B12	12	12.6V C.T. @ 900ma	6.3V @ 1.8A
229C12	24	12.6V C.T. @ 1.9A	6.3V @ 3.8A
229D12	48	12.6V C.T. @ 3.8A	6.3V @ 7.6A
229E16	2	16V C.T. @ 150ma	8V @ 300ma
229A16	6	16V C.T. @ 350ma	8V @ 700ma
229B16	12	16V C.T. @ 700ma	8V @ 1.4A
229C16	24	16V C.T. @ 1.5A	8V @ 3A
229D16	48	16V C.T. @ 3A	8V @ 6A
229E20	2	20V C.T. @ 125ma	10V @ 250ma
229A20	6	20V C.T. @ 300ma	10V @ 600ma
229B20	12	20V C.T. @ 600ma	10V @ 1.2A
229C20	24	20V C.T. @ 1.2A	10V @ 2.4A
229D20	48	20V C.T. @ 2.4A	10V @ 4.8A
229E24	2	24V C.T. @ 100ma	12V @ 200ma
229A24	6	24V C.T. @ 250ma	12V @ 500ma
229B24	12	24V C.T. @ 500ma	12V @ 1A
229C24	24	24V C.T. @ 1A	12V @ 2A
229D24	48	24V C.T. @ 2A	12V @ 4A
229E30	2	30V C.T. @ 85ma	15V @ 170ma
229A30	6	30V C.T. @ 200ma	15V @ 400ma
229B30	12	30V C.T. @ 400ma	15V @ 800ma
229C30	24	30V C.T. @ 800ma	15V @ 1.6A
229D30	48	30V C.T. @ 1.6A	15V @ 3.2A
229E34	2	34V C.T. @ 75ma	17V @ 150ma
229A34	6	34V C.T. @ 170ma	17V @ 340ma
229B34	12	34V C.T. @ 340ma	17V @ 680ma
229C34	24	34V C.T. @ 700ma	17V @ 1.4A
229D34	48	34V C.T. @ 1.4A	17V @ 2.8A
229E40	2	40V C.T. @ 60ma	20V @ 120ma
229A40	6	40V C.T. @ 150ma	20V @ 300ma
229B40	12	40V C.T. @ 300ma	20V @ 600ma
229C40	24	40V C.T. @ 600ma	20V @ 1.2A
229D40	48	40V C.T. @ 1.2A	20V @ 2.4A
229E56	2	56V C.T. @ 45ma	28V @ 90ma
229A56	6	56V C.T. @ 100ma	28V @ 200ma
229B56	12	56V C.T. @ 200ma	28V @ 400ma
229C56	24	56V C.T. @ 425ma	28V @ 850ma
229D56	48	56V C.T. @ 850ma	28V @ 1.7A
229E88	2	88V C.T. @ 28ma	44V @ 56ma
229A88	6	88V C.T. @ 65ma	44V @ 130ma
229B88	12	88V C.T. @ 130ma	44V @ 260ma
229E120	2	120V C.T. @ 20ma	60V @ 40ma
229A120	6	120V C.T. @ 50ma	60V @ 100ma
229B120	12	120V C.T. @ 100ma	60V @ 200ma
229E230	2	230V C.T. @ 10ma	115V @ 20ma
229A230	6	230V C.T. @ 25ma	115V @ 50ma
229B230	12	230V C.T. @ 50ma	115V @ 100ma



LOW VOLTAGE - P.C. BOARD MOUNT LOW PROFILE

- Low profile mounting, dual - split bobbin design.
- Low primary to secondary coupling, balanced windings, no electrostatic shield required and low EMF radiation due to semi-toroidal design.
- Universal dual primary 115/230V - 50/60 Hz.
- High insulation - Hipot of 1,750V RMS.
- Class B insulation - 130 degrees C.
- C UL US recognized



Dimension Table

Size (VA)	Regu- lation	P.C. Card Spacing	Pin Size	Dimensions (Inches)					
				A	B	C	D	D1	E
2	30%	0.75	.018 x .041"	1.56	1.88	0.65	0.38	0.38	1.60
6	30%	1.00	.018 x .041"	1.56	1.88	0.85	0.38	0.38	1.60
12	20%	1.25	.018 x .041"	2.00	2.50	1.07	0.50	0.50	2.00
24	15%	1.50	.040" square	2.25	2.87	1.25	0.60	0.53	1.90
48	15%	1.50	.040" square	2.50	3.12	1.38	0.60	0.66	2.18

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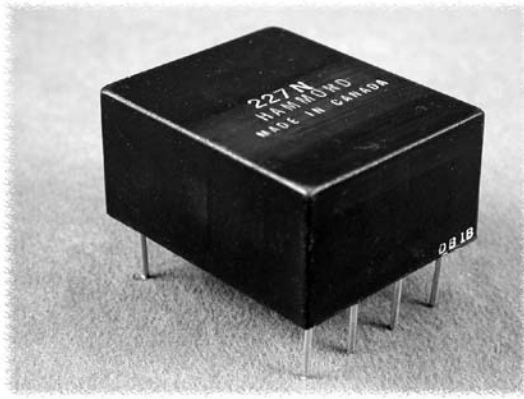
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Low Voltage - P.C. Board Mount (226-228 Series)

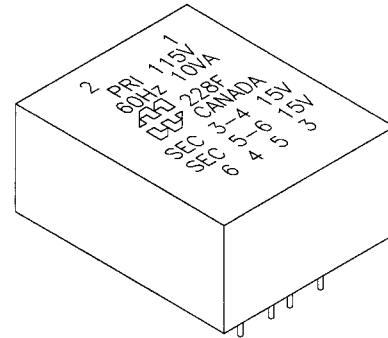
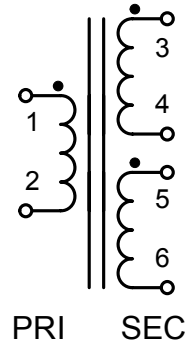
Power



LOW PROFILE - EPOXY CAST P.C. MOUNT POWER TRANSFORMERS

- Primary 115 VAC, 60 or 400Hz. models, 3 case sizes
- Epoxy cast to withstand shock and severe environments
- Two coil design provides balanced windings and low magnetic radiation - no electrostatic shield required.
- 228 series include four, 6-32 X .38 machine screw inserts for less strain on p.c. board connections.

Transformer Schematic

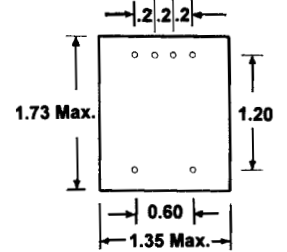


226 SERIES

Part No.	Size (VA)	Freq. (Hz)	Secondary (RMS)		Temp. Rise (C)	% Regul.
			Series	Parallel		
226D	1	60	20V C.T. @ 50ma	10V @ 100ma	25	19.7
226F	1	60	30V C.T. @ 34ma	15V @ 67ma	25	21.7
226H	1	60	40V C.T. @ 25ma	20V @ 50ma	25	18.9
226N	20	400	20V C.T. @ 1A	10V @ 2A	35	7.2
226P	20	400	26V C.T. @ 770ma	13V @ 1.54A	35	7.6
226R	20	400	30V C.T. @ 670ma	15V @ 1.33A	35	7.5
226T	20	400	40V C.T. @ 500ma	20V @ 1A	35	7.2



0.22 lbs.
0.80" High Max.
0.04" Pin Dia.

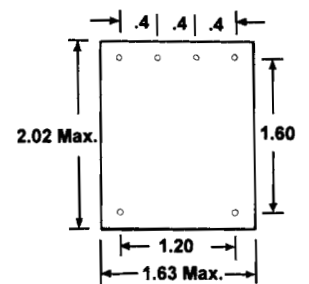


227 SERIES

Part No.	Size (VA)	Freq. (Hz)	Secondary (RMS)		Temp. Rise (C)	% Regul.
			Series	Parallel		
227D	5	60	20V C.T. @ 250ma	10V @ 500ma	25	20.1
227F	5	60	30V C.T. @ 170ma	15V @ 340ma	25	24
227H	5	60	40V C.T. @ 125ma	20V @ 250ma	25	26
227N	40	400	20V C.T. @ 2A	10V @ 4A	45	6
227P	40	400	26V C.T. @ 1.54A	13V @ 3.08A	45	5.7
227R	40	400	30V C.T. @ 1.33A	15V @ 2.66A	45	6
227T	40	400	40V C.T. @ 1A	20V @ 2A	45	5.7

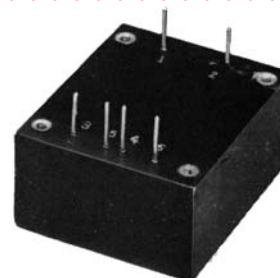


0.38 lbs
1.05" High Max.
0.05" Pin Dia.

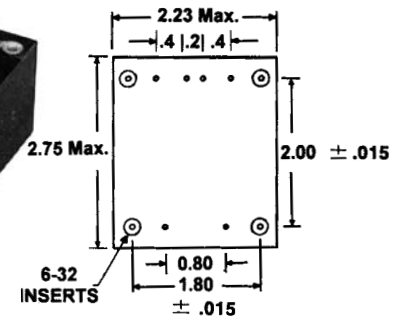


228 SERIES

Part No.	Size (VA)	Freq. (Hz)	Secondary (RMS)		Temp. Rise (C)	% Regul.
			Series	Parallel		
228D	10	60	20V C.T. @ 500ma	10V @ 1A	20	12.2
228F	10	60	30V C.T. @ 340ma	15V @ 670ma	20	12.5
228H	10	60	40V C.T. @ 250ma	20V @ 500ma	20	12.2



0.91 lbs
1.22" High Max.
0.05" Pin Dia.



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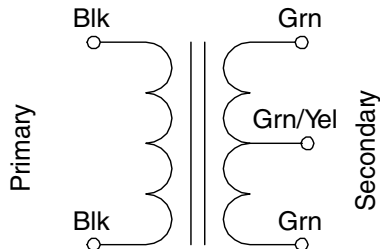


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Filament & L.V. Rectifier Use (165 Series)

Transformer Schematic

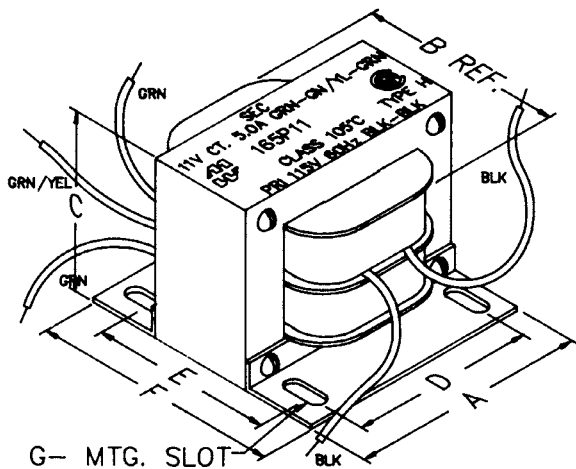


Power



HIGH CURRENT - OPEN FRAME FILAMENT & L.V. RECTIFIER USE TRANSFORMERS

- Primary 115 VAC, 60 Hz.
- All secondaries center tapped, VAC (RMS)
- Open style, 4 hole frame chassis mount.
- Minimum 6" long leads or copper tabs with holes.
- Dual bobbin design - no electrostatic shield required.
- Class B insulation (130 degrees, C).
- Hi-Pot test of 2,000V RMS.
- UL listed (# E50394) & CSA certified (# LR3902)



Primary 115 VAC 60 Hz.

Part No.	VA	Secondary (R.M.S.)		Dim. Ref.
		VAC	Amps	
165Z3	150	3.0 C.T.	50	H10
165X5	150	5.0 C.T.	30	H9
165V7	157.5	7.5 C.T.	21	H9
165V10	200	10.0 C.T.	20	H10
165U11	165	11.0 C.T.	15	H9
165S12	126	12.6 C.T.	10	H7
165V12	252	12.6 C.T.	20	H12
165S18	180	18.0 C.T.	10	H10
165U18	270	18.0 C.T.	15	H16
165V18	360	18.0 C.T.	20	H18
165T22	264	22.0 C.T.	12	H16
165V22	440	22.0 C.T.	20	H19
165P25	125	25.0 C.T.	5	H7
165S25	250	25.0 C.T.	10	H12
165P30	150	30.0 C.T.	5	H7
165S30	300	30.0 C.T.	10	H16
165P60	300	60.0 C.T.	5	H16
165N80	320	80.0 C.T.	4	H18

Dimension Table

Mtg. Style	Dimensions (Inches)						Mtg. Slot
	A	B	C	D	E	F	
H7	3.00	3.25	2.56	2.50	3.25	4.00	.22 x .56
H9	3.75	2.63	3.13	3.13	2.50	3.25	.22 x .56
H10	3.75	3.13	3.13	3.13	2.75	3.50	.22 x .56
H12	3.75	3.63	3.13	3.13	3.25	4.00	.22 x .56
H16	4.50	3.88	3.75	3.75	2.75	3.50	.28 x .56
H18	4.50	4.38	3.75	3.75	3.25	4.00	.28 x .56
H19	4.50	4.38	3.75	3.75	3.75	4.50	.28 x .56

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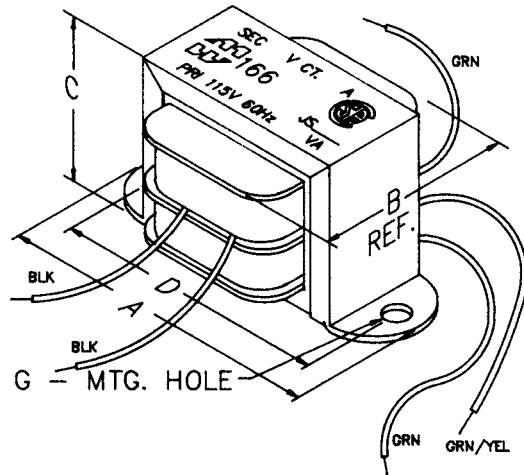
Filament & L.V. Rectifier Use - Single Primary (166 Series)

Power



OPEN STYLE FILAMENT & L.V. RECTIFIER USE TRANSFORMERS

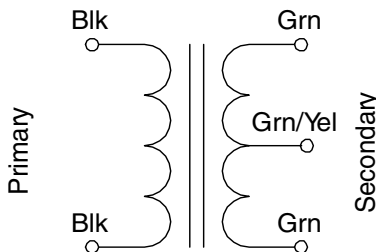
- Economical single primary 115 VAC, 60 Hz. or 117 VAC, 50/60 Hz. (see tables). If you require dual primary 117/234 operation, see our 266 series)
- All secondaries center tapped, VAC (RMS)
- Open style, channel bracket, two hole chassis mount.
- Minimum 6" long leads.
- Dual bobbin design - no electrostatic shield required.
- We use Class B insulation (130 degrees, C) for extra protection - UL listed as a Class A (105 degree, C) design.
- Hi-Pot test of 2,000V RMS.
- UL listed.
- CSA certified.



Dimension Table "C" Mount

Mtg. Style	Dimensions (Inches)				Mtg. Hole (Inches)
	A	B	C	D	
C0H	1.35	0.69	0.69	1.06	0.125
C1H	1.63	0.88	0.81	1.38	0.125
C2H	2.06	1.25	1.19	1.75	0.187
C3H	2.06	1.38	1.19	1.75	0.187
C4H	2.38	1.38	1.38	2.00	0.187
C5H	2.38	1.50	1.38	2.00	0.187
C6H	2.81	1.50	1.69	2.38	0.187
C7H	2.81	1.63	1.69	2.38	0.187
C8H	3.25	1.63	2.00	2.81	0.187
C9H	3.25	1.75	2.00	2.81	0.187
C10H	3.25	2.00	2.00	2.81	0.187
C11H	3.69	1.88	2.31	3.13	0.187
C12H	3.69	2.00	2.31	3.13	0.187
C13H	3.69	2.13	2.31	3.13	0.187
C14H	4.03	2.25	2.63	3.56	0.187
C15H	4.03	2.50	2.63	3.56	0.187
C16H	4.50	2.50	3.00	4.00	0.203

Transformer Schematic



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Filament & L.V. Rectifier Use - Single Primary (166 Series)

Power

Part No.	VA	Primary	Secondary (R.M.S.)		Dim Ref.	Part No.	VA	Primary	Secondary (R.M.S.)		Dim Ref.
			VAC	Amps					VAC	Amps	
166F2	0.63	115 V 60 Hz.	2.5 C.T.	0.25	C2H	166LA12	24	115 V 60 Hz.	12 C.T.	2	C9H
166G2	1.25	115 V 60 Hz.	2.5 C.T.	0.5	C2H	166N12B	48	117 V 50/60 Hz.	12 C.T.	4	C12H
166J2	2.5	115 V 60 Hz.	2.5 C.T.	1	C3H	166F12	3.78	115 V 60 Hz.	12.6 C.T.	0.3	C4H
166K2	3.75	115 V 60 Hz.	2.5 C.T.	1.5	C4H	166G12	6.3	115 V 60 Hz.	12.6 C.T.	0.5	C6H
166L2	6.25	115 V 60 Hz.	2.5 C.T.	2.5	C6H	166J12	12.6	115 V 60 Hz.	12.6 C.T.	1	C7H
166M2	7.5	115 V 60 Hz.	2.5 C.T.	3	C6H	166K12B	18.9	117 V 50/60 Hz.	12.6 C.T.	1.5	C10H
166Q2	15	115 V 60 Hz.	2.5 C.T.	6	C8H	166L12B	25.2	117 V 50/60 Hz.	12.6 C.T.	2	C10H
166S2	25	115 V 60 Hz.	2.5 C.T.	10	C12H	166L12	31.5	115 V 60 Hz.	12.6 C.T.	2.5	C10H
166F5	1.25	115 V 60 Hz.	5 C.T.	0.25	C2H	166M12	37.8	117 V 50/60 Hz.	12.6 C.T.	3	C13H
166G5	2.5	115 V 60 Hz.	5 C.T.	0.5	C3H	166N12	50.4	115 V 60 Hz.	12.6 C.T.	4	C13H
166J5	5	115 V 60 Hz.	5 C.T.	1	C5H	166Q12	75.6	115 V 60 Hz.	12.6 C.T.	6	C14H
166L5	10	115 V 60 Hz.	5 C.T.	2	C7H	166R12	100.8	115 V 60 Hz.	12.6 C.T.	8	C16H
166MS	15	115 V 60 Hz.	5 C.T.	3	C9H	166E14	2.1	115 V 60 Hz.	14 C.T.	0.15	C3H
166R5	40	115 V 60 Hz.	5 C.T.	8	C12H	166G14	7	115 V 60 Hz.	14 C.T.	0.5	C6H
166RS	40	115 V 60 Hz.	5 C.T.	8	C16H	166J14	14	115 V 60 Hz.	14 C.T.	1	C7H
166S5	50	115 V 60 Hz.	5 C.T.	10	C13H	166L14	28	115 V 60 Hz.	14 C.T.	2	C10H
166U5	75	115 V 60 Hz.	5 C.T.	15	C14H	166Q14	84	115 V 60 Hz.	14 C.T.	6	C15H
166V5	100	115 V 60 Hz.	5 C.T.	20	C16H	166F16	4	115 V 60 Hz.	16 C.T.	0.25	C4H
166E6	0.95	115 V 60 Hz.	6.3 C.T.	0.15	C2H	166G16	8	115 V 60 Hz.	16 C.T.	0.50	C6H
166F6	1.89	115 V 60 Hz.	6.3 C.T.	0.3	C3H	166J16	16	115 V 60 Hz.	16 C.T.	1	C8H
166G6	3.78	115 V 60 Hz.	6.3 C.T.	0.6	C4H	166L16	35.2	115 V 60 Hz.	16 C.T.	2.2	C10H
166J6	6.3	115 V 60 Hz.	6.3 C.T.	1	C6H	166M16	48	115 V 60 Hz.	16 C.T.	3	C13H
166K6	7.56	115 V 60 Hz.	6.3 C.T.	1.2	C6H	166B18	0.54	115 V 60 Hz.	9/18 C.T.	.06/.03	C2H
166K6B	7.56	117 V 50/60 Hz.	6.3 C.T.	1.2	C6H	166E18	5.4	115 V 60 Hz.	18 C.T.	0.3	C5H
166L6	12.6	115 V 60 Hz.	6.3 C.T.	2	C7H	166K18	27	115 V 60 Hz.	18 C.T.	1.5	C9H
166M6	18.9	117 V 50/60 Hz.	6.3 C.T.	3	C10H	166M18	54	115 V 60 Hz.	18 C.T.	3	C13H
166N6	25.2	115 V 60 Hz.	6.3 C.T.	4	C9H	166P18	90	115 V 60 Hz.	18 C.T.	5	C15H
166Q6	37.8	115 V 60 Hz.	6.3 C.T.	6	C12H	166D20	2	115 V 60 Hz.	20 C.T.	0.1	C3H
166S6	63	115 V 60 Hz.	6.3 C.T.	10	C14H	166E20	3	115 V 60 Hz.	20 C.T.	0.15	C3H
166G7	4.9	115 V 60 Hz.	7 C.T.	0.7	C5H	166F20	6	115 V 60 Hz.	20 C.T.	0.3	C5H
166U7	112.5	115 V 60 Hz.	7.5 C.T.	15	C16H	166G20	10	115 V 60 Hz.	20 C.T.	0.5	C7H
166G8	4	115 V 60 Hz.	8 C.T.	0.5	C4H	166J20	20	115 V 60 Hz.	20 C.T.	1	C9H
166J8	8.5	115 V 60 Hz.	8.5 C.T.	1	C6H	166L20	40	115 V 60 Hz.	20 C.T.	2	C11H
166L8	17	115 V 60 Hz.	8.5 C.T.	2	C8H	166L22	44	115 V 60 Hz.	22 C.T.	2	C13H
166M8	25.5	115 V 60 Hz.	8.5 C.T.	3	C9H	166A24	0.63	115 V 60 Hz.	12.6/25.2 C.T.	.05/.025	C2H
166N8	34	115 V 60 Hz.	8.5 C.T.	4	C10H	166C24	2.04	115 V 60 Hz.	24 C.T.	0.085	C3H
166G9	4.5	115 V 60 Hz.	9 C.T.	0.5	C4H	166EA24	4.8	115 V 60 Hz.	24 C.T.	0.2	C5H
166F10	3	115 V 60 Hz.	10 C.T.	0.3	C3H	166FB24	9.6	117 V 50/60 Hz.	24 C.T.	0.4	C7H
166G10	5	115 V 60 Hz.	10 C.T.	0.5	C5H	166GD24B	16.8	117 V 50/60 Hz.	24 C.T.	0.7	C9H
166J10	10	115 V 60 Hz.	10 C.T.	1	C7H	166J24	24	117 V 50/60 Hz.	24 C.T.	1	C10H
166L10	20	115 V 60 Hz.	10 C.T.	2	C9H	166JB24	24	115 V 60 Hz.	24 C.T.	1	C9H
166M10	30	115 V 60 Hz.	10 C.T.	3	C10H	166L24	48	115 V 60 Hz.	24 C.T.	2	C13H
166N10	40	115 V 60 Hz.	10 C.T.	4	C12H	166M24	72	115 V 60 Hz.	24 C.T.	3	C14H
166P10	50	115 V 60 Hz.	10 C.T.	5	C13H	166N24	96	115 V 60 Hz.	24 C.T.	4	C16H
166R10	80	115 V 60 Hz.	10 C.T.	8	C15H	166D25	2.5	115 V 60 Hz.	25 C.T.	0.1	C3H
166S10	100	115 V 60 Hz.	10 C.T.	10	C16H	166E25	3.75	115 V 60 Hz.	25 C.T.	0.15	C4H
166P11	55	115 V 60 Hz.	11 C.T.	5	C13H	166F25	7.5	115 V 60 Hz.	25 C.T.	0.3	C6H
166S11	110	115 V 60 Hz.	11 C.T.	10	C16H	166G25	12.5	115 V 60 Hz.	25 C.T.	0.5	C7H
166C12	0.63	115 V 60 Hz.	6.3/12.6 C.T.	.1/.05	C2H	166J25	25	115 V 60 Hz.	25 C.T.	1	C9H
166E12	1.8	115 V 60 Hz.	12 C.T.	0.15	C3H	166J25B	25	117 V 50/60 Hz.	25 C.T.	1	C10H
166F12B	3.6	115 V 60 Hz.	12 C.T.	0.3	C4H	166K25	37.5	115 V 60 Hz.	25 C.T.	1.5	C11H
166F12C	4.2	115 V 60 Hz.	12 C.T.	0.35	C4H	166L25	50	115 V 60 Hz.	25 C.T.	2	C13H
166GD12	8.4	117 V 50/60 Hz.	12	0.7	C7H	166M25	75	115 V 60 Hz.	25 C.T.	3	C14H
166JA12	12	115 V 60 Hz.	12 C.T.	1	C7H	166L25B	50.4	115 V 50/60 Hz.	25.2 C.T.	2	C14H
166K12	14.4	115 V 60 Hz.	12 C.T.	1.2	C8H	166F28	7	115 V 60 Hz.	28 C.T.	0.25	C6H
166JB12	14.4	117 V 50/60 Hz.	12 C.T.	1.2	C9H	166G28	14	115 V 60 Hz.	28 C.T.	0.5	C7H

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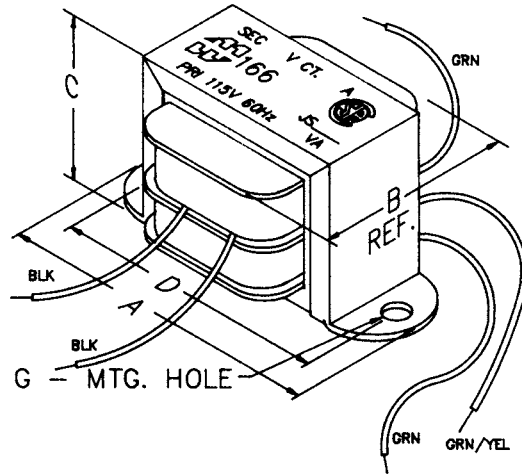
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Filament & L.V. Rectifier Use - Single Primary (166 Series)

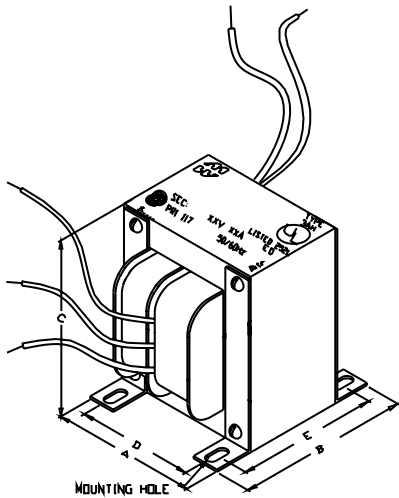
Power

Part No.	VA	Primary	Secondary (R.M.S.)		Dim Ref.
			VAC	Amps	
166J28	28	115 V 60 Hz.	28 C.T.	1	C10H
166L28	56	115 V 60 Hz.	28 C.T.	2	C13H
166E30	4.5	115 V 60 Hz.	30 C.T.	0.15	C4H
166F30	7.5	115 V 60 Hz.	30 C.T.	0.25	C6H
166G30	15	115 V 60 Hz.	30 C.T.	0.5	C8H
166J33	33	115 V 60 Hz.	33 C.T.	1	C10H
166K35	52.5	115 V 60 Hz.	35 C.T.	1.5	C13H
166E36	5.4	115 V 60 Hz.	36 C.T.	0.15	C5H
166F36	10.8	115 V 60 Hz.	36 C.T.	0.3	C7H
166G36	18	115 V 60 Hz.	36 C.T.	0.5	C8H
166J36	36	115 V 60 Hz.	36 C.T.	1	C11H
166L42	84	115 V 60 Hz.	42 C.T.	2	C15H
166E44	6.6	115 V 60 Hz.	44 C.T.	0.15	C6H
166F44	11	115 V 60 Hz.	44 C.T.	0.25	C7H
166G44	22	115 V 60 Hz.	44 C.T.	0.5	C9H
166J44	44	115 V 60 Hz.	44 C.T.	1	C12H
166M48	144	117 V 50/60 Hz.	48 C.T.	3	B1H
166C50	3.75	115 V 60 Hz.	50 C.T.	0.075	C4H
166F50	15	115 V 60 Hz.	50 C.T.	0.3	C8H
166G50	25	115 V 60 Hz.	50 C.T.	0.5	C9H
166J50	50	115 V 60 Hz.	50 C.T.	1	C13H
166L50	100	115 V 60 Hz.	50 C.T.	2	C16H
166G60	30	115 V 60 Hz.	60 C.T.	0.5	C10H
166M72	216	117 V 50/60 Hz.	72 C.T.	3	B2H
166G80	40	115 V 60 Hz.	80 C.T.	0.5	C11H
166G100	50	115 V 60 Hz.	100 C.T.	0.5	C13H
166F120	36	115 V 60 Hz.	120 C.T.	0.3	C11H



Dimension Table "C" Mount

Mtg. Style	Dimensions (Inches)				Mtg. Hole (Inches)
	A	B	C	D	
C0H	1.35	0.69	0.69	1.06	0.125
C1H	1.63	0.88	0.81	1.38	0.125
C2H	2.06	1.25	1.19	1.75	0.187
C3H	2.06	1.38	1.19	1.75	0.187
C4H	2.38	1.38	1.38	2.00	0.187
C5H	2.38	1.50	1.38	2.00	0.187
C6H	2.81	1.50	1.69	2.38	0.187
C7H	2.81	1.63	1.69	2.38	0.187
C8H	3.25	1.63	2.00	2.81	0.187
C9H	3.25	1.75	2.00	2.81	0.187
C10H	3.25	2.00	2.00	2.81	0.187
C11H	3.69	1.88	2.31	3.13	0.187
C12H	3.69	2.00	2.31	3.13	0.187
C13H	3.69	2.13	2.31	3.13	0.187
C14H	4.03	2.25	2.63	3.56	0.187
C15H	4.03	2.50	2.63	3.56	0.187
C16H	4.50	2.50	3.00	4.00	0.203



Dimension Table "B" Mount

Mtg. Style	Dimensions (Inches)					Mtg. Slot (Inches)
	A	B	C	D	E	
B1H	3.44	2.98	4.13	2.75	2.38	0.203 x 0.375
B2H	3.75	3.56	4.50	3.00	3.00	0.203 x 0.375



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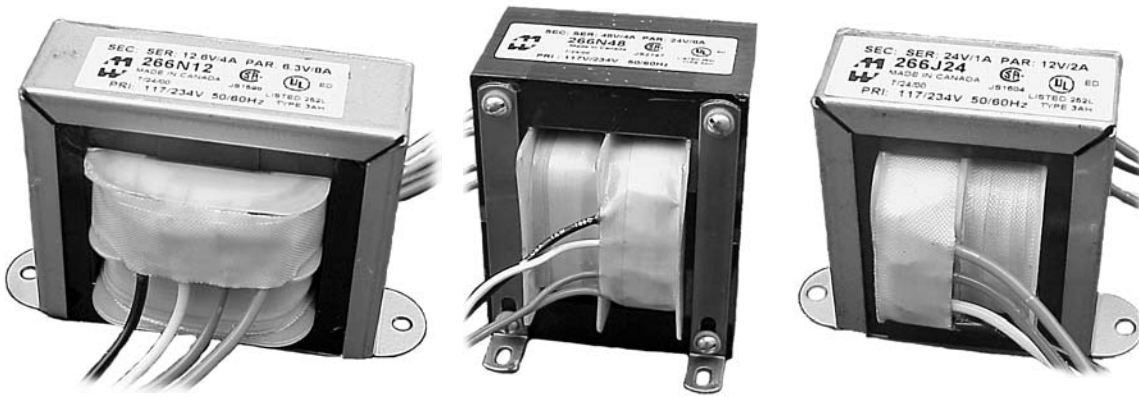


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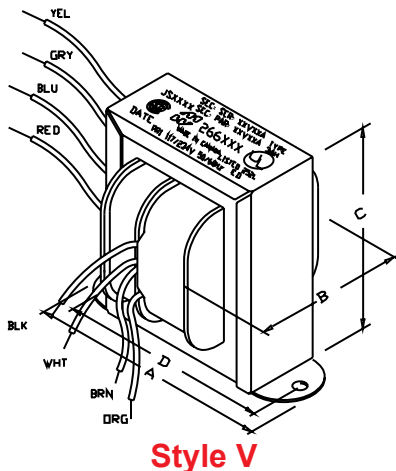
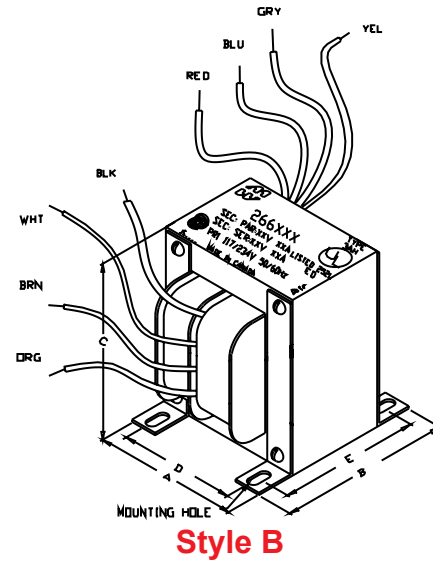
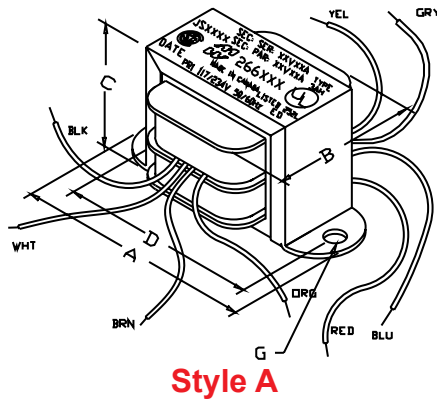
Filament & L.V. Rectifier Use - Dual Primary (266 Series)

Power

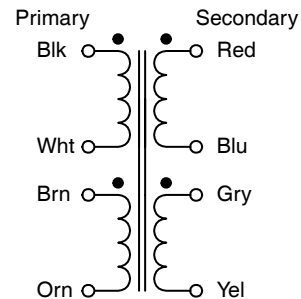


OPEN STYLE DUAL PRIMARY & DUAL SECONDARY FILAMENT & L.V. RECTIFIER USE TRANSFORMERS

- Dual Primary 117/234 VAC, 50/60 Hz.
- All units also have dual secondaries.
- Secondaries can be used as a center tapped secondary, parallel connected or used individually.
- Open style with minimum 6" long leads.
- Dual bobbin design - no electrostatic shield required.
- We use Class B insulation (130 degrees, C) for extra protection - UL listed as a Class A (105 degree, C) design
- Hi-Pot test of 2,000V RMS.
- UL listed (#E50394) Type 3AH
- CSA certified (#LR3902)



Transformer Schematic



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Filament & L.V. Rectifier Use - Dual Primary (266 Series)

Dual Primary 117/234 VAC - 50/60 Hz.

Power

Part No.	Size (VA)	Secondary VAC (RMS)		Mtg. Style	Dimensions (Inches)					Mtg. Hole	Weight lbs.
		Series (C.T.)	Parallel		A	B	C	D	E		
266M2	7.5	2.5V @ 3A	1.25V @ 6A	A	2.82	1.69	1.69	2.38	-	0.187	0.76
266M5	15	5V @ 3A	2.5V @ 6A	A	3.25	2.06	2.00	2.81	-	0.187	1.06
266F6	1.89	6.3V @ 0.3A	3.15V @ 0.6A	A	2.06	1.38	1.25	1.75	-	0.187	0.20
266GB6	3.78	6.3V @ 0.6A	3.15V @ 1.2A	A	2.38	1.48	1.43	2.00	-	0.187	0.40
266J6	6.3	6.3V @ 1A	3.15V @ 2A	A	2.81	1.60	1.68	2.38	-	0.187	0.70
266JB6	7.6	6.3V @ 1.2A	3.15V @ 2.4A	A	2.82	1.69	1.69	2.38	-	0.187	0.70
266L6	12.6	6.3V @ 2A	3.15V @ 4A	A	3.25	2.06	2.00	2.81	-	0.187	0.87
266M6	18.9	6.3V @ 3A	3.15V @ 6A	A	3.25	2.06	2.00	2.81	-	0.187	1.15
266PA6	37.8	6.3V @ 6A	3.15V @ 12A	A	4.00	2.25	2.62	3.56	-	0.187	1.04
266S6	63	6.3V @ 10A	3.15V @ 20A	A	4.00	2.47	2.62	3.56	-	0.187	2.60
266V6B	126	6.3V @ 20A	3.15V @ 40A	B	3.13	3.56	3.81	2.50	3.00	.203 x .375	6.40
266G9	4.5	9V @ 0.5A	4.5V @ 1A	A	2.38	1.48	1.43	2.00	-	0.187	0.40
266E12	1.8	12V @ 0.15A	6V @ 0.3A	A	2.06	1.22	1.25	1.75	-	0.187	0.28
266F12B	3.6	12V @ 0.3A	6V @ 0.6A	A	2.38	1.48	1.43	2.00	-	0.187	0.40
266F12C	4.2	12V @ 0.35A	6V @ 0.7A	A	2.38	1.48	1.43	2.00	-	0.187	0.40
266GD12	8.4	12V @ 0.7A	6V @ 1.4A	A	2.82	1.69	1.69	2.38	-	0.187	0.76
266JA12	12	12V @ 1A	6V @ 2A	V	2.88	1.73	2.37	2.38	-	0.187	1.00
266JB12	14.4	12V @ 1.2A	6V @ 2.4A	A	3.25	2.06	2.00	2.81	-	0.187	1.00
266LA12	24	12V @ 2A	6V @ 4A	V	3.13	1.97	2.75	2.81	-	0.187	1.60
266N12B	48	12V @ 4A	6V @ 8A	A	4.00	2.21	2.62	3.56	-	0.187	2.50
266PA12	72	12V @ 6A	6V @ 12A	A	4.03	2.50	2.63	3.56	-	0.187	2.63
266F12	3.78	12.6V @ 0.3A	6.3V @ 0.6A	A	2.38	1.50	1.45	2.00	-	0.187	0.40
266G12	6.3	12.6V @ 0.5A	6.3V @ 1A	A	2.81	1.60	1.68	2.38	-	0.187	0.60
266J12	12.6	12.6V @ 1A	6.3V @ 2A	A	3.25	1.75	2.00	2.81	-	0.187	1.00
266K12	18.9	12.6V @ 1.5A	6.3V @ 3A	A	3.25	2.06	2.00	2.81	-	0.187	1.15
266L12B	25.2	12.6V @ 2A	6.3V @ 4A	V	3.13	1.97	2.75	2.81	-	0.187	1.60
266L12	31.5	12.6V @ 2.5A	6.3V @ 5A	A	3.69	2.20	2.31	3.13	-	0.187	1.00
266M12	38	12.6V @ 3A	6.3V @ 6A	A	3.69	2.31	2.31	3.13	-	0.187	1.60
266N12	50.4	12.6V @ 4A	6.3V @ 8A	A	4.00	2.40	2.62	3.56	-	0.187	2.69
266G14	7	14V @ 0.5A	7V @ 1A	A	2.81	1.60	1.68	2.38	-	0.187	0.60
266J14	14	14V @ 1A	7V @ 2A	A	3.25	2.06	2.00	2.81	-	0.187	1.20
266L14	28	14V @ 2A	7V @ 4A	A	3.69	2.00	2.31	3.13	-	0.187	1.63
266PA14	84	14V @ 6A	7V @ 12A	B	2.81	2.85	3.44	2.25	2.38	.203 x .375	4.00
266G16	8	16V @ 0.5A	8V @ 1A	A	2.81	1.60	1.68	2.38	-	0.187	0.78
266J16	16	16V @ 1A	8V @ 2A	A	3.25	1.90	2.00	2.81	-	0.187	1.20
266L16	35.2	16V @ 2.2A	8V @ 4.4A	A	3.69	2.20	2.35	3.13	-	0.187	1.90
266M16	48	16V @ 3A	8V @ 6A	A	4.00	2.30	2.62	3.56	-	0.187	2.50
266K18	27	18V @ 1.5A	9V @ 3A	A	3.69	1.97	2.31	3.13	-	0.187	1.58
266M18	54	18V @ 3A	9V @ 6A	A	4.03	2.50	2.63	3.56	-	0.187	2.68
266P18	90	18V @ 5A	9V @ 10A	B	2.81	3.06	3.41	2.25	2.50	.203 x .375	3.90
266F20	6	20V @ 0.3A	10V @ 0.6A	A	2.81	1.60	1.68	2.38	-	0.187	0.60
266G20	10	20V @ 0.5A	10V @ 1A	V	2.88	1.90	2.37	2.38	-	0.187	1.00
266L20	40	20V @ 2A	10V @ 4A	A	4.00	2.25	2.62	3.56	-	0.187	2.63
266M20	60	20V @ 3A	10V @ 6A	A	4.03	2.50	2.63	3.26	-	0.187	2.68
266C24	2	24V @ 0.085A	12V @ 0.17A	A	2.06	1.38	1.19	1.75	-	0.187	0.28
266EA24	4.8	24V @ 0.2A	12V @ 0.4A	A	2.38	1.60	1.45	2.00	-	0.187	0.45
266F24	7.2	24V @ 0.3A	12V @ 0.6A	A	2.81	1.60	1.68	2.38	-	0.187	0.60
266FB24	9.6	24V @ 0.4A	12V @ 0.8A	A	2.82	1.69	1.69	2.38	-	0.187	0.75
266G24	12	24V @ 0.5A	12V @ 1A	V	2.88	1.90	2.37	2.38	-	0.187	1.00
266GD24	16.8	24V @ 0.7A	12V @ 1.4A	A	3.25	2.06	2.00	2.81	-	0.187	1.15
266J24	24	24V @ 1A	12V @ 2A	V	3.13	2.00	2.75	2.81	-	0.187	1.60
266L24	48	24V @ 2A	12V @ 4A	V	3.56	2.25	3.12	3.13	-	0.187	2.25
266M24	72	24V @ 3A	12V @ 6A	A	4.03	2.50	2.63	3.56	-	0.187	2.68
266N24	96	24V @ 4A	12V @ 8A	B	2.81	3.06	3.38	2.25	2.50	.203 x .375	4.40
266P24	120	24V @ 5A	12V @ 10A	B	3.13	2.86	3.81	2.50	2.50	.203 x .375	5.20



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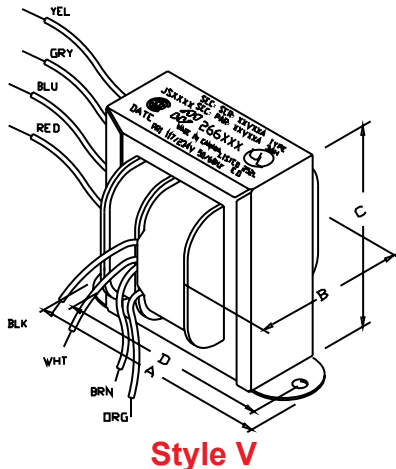
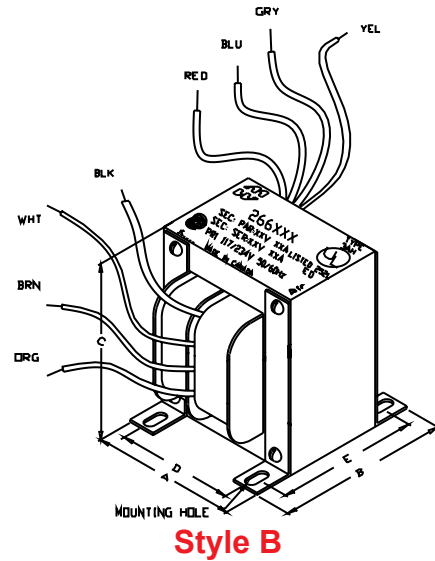
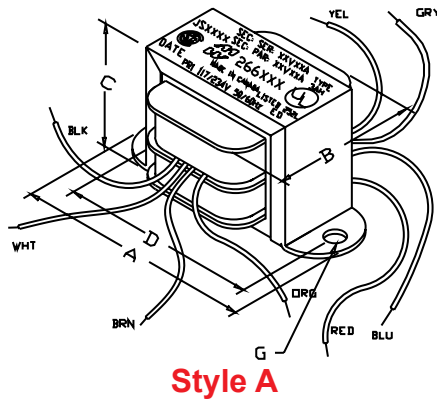
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Filament & L.V. Rectifier Use - Dual Primary (266 Series)

Dual Primary 117/234 VAC - 50/60 Hz.

Power

Part No.	Size (VA)	Secondary VAC (RMS)		Mtg. Style	Dimensions (Inches)					Mtg. Hole	Weight lbs.
		Series (C.T.)	Parallel		A	B	C	D	E		
266PA24	144	24V @ 6A	12V @ 12A	B	3.13	3.75	3.81	2.50	2.88	.203 x .375	6.00
266R24	192	24V @ 8A	12V @ 16A	B	3.44	3.56	4.13	2.94	3.00	.203 x .375	8.60
266S24	240	24V @ 10A	12V @ 20A	B	3.44	3.60	4.30	2.75	3.00	.203 x .375	8.60
266J25	25.2	25.2V @ 1A	12.6V @ 2A	A	3.25	2.06	2.00	2.81	-	0.187	1.25
266L25	50.4	25.2V @ 2A	12.6V @ 4A	A	4.00	2.25	2.62	3.56	-	0.187	2.69
266LH25	70.56	25.2V @ 2.8A	12.6V @ 5.6A	A	4.00	2.25	2.62	3.56	-	0.187	2.63
266M25	75	25V @ 3A	12.5V @ 6A	A	4.50	2.50	2.90	4.00	-	0.187	3.25
266J26	26.5	26.8V @ 1A	13.4V @ 2A	A	3.25	2.06	2.00	2.81	-	0.187	1.30
266L28	56	28V @ 2A	14V @ 4A	B	2.50	2.50	3.06	2.00	2.25	.203 x .375	2.75
266K35	52.5	35V @ 1.5A	17.5V @ 3A	A	4.00	2.25	2.62	3.56	-	0.187	2.25
266G36	18	36V @ 0.5A	18V @ 1A	A	3.25	2.06	2.00	2.81	-	0.187	1.07
266J36	36	36V @ 1A	18V @ 2A	A	3.69	1.97	2.31	3.13	-	0.187	1.78
266J48	48	48V @ 1A	24V @ 2A	V	3.56	2.20	3.12	3.13	-	0.187	2.50
266L48	96	48V @ 2A	24V @ 4A	B	2.81	3.06	3.38	2.25	2.50	.203 x .375	4.50
266M48	144	48V @ 3A	24V @ 6A	B	3.13	3.06	3.84	2.50	2.50	.203 x .375	6.00
266N48	192	48V @ 4A	24V @ 8A	B	3.44	3.62	4.22	2.75	3.00	.203 x .375	8.00



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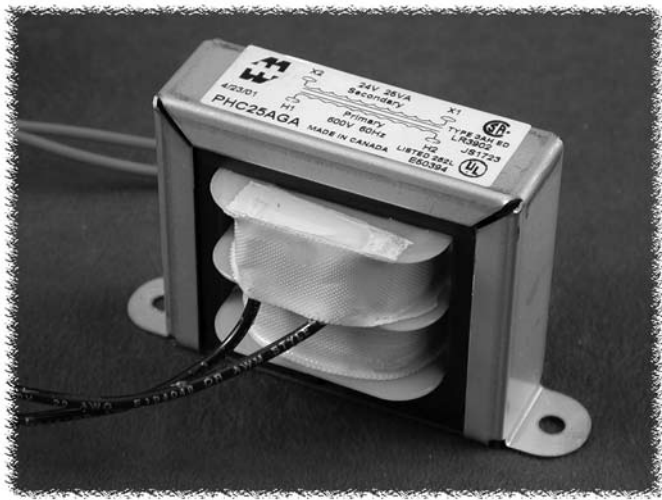
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Small Chassis Mount - Control (PHC Series)

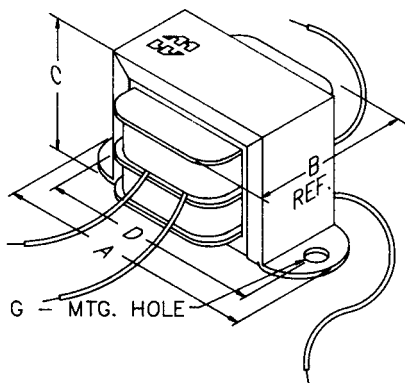
Power



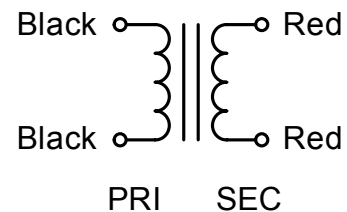
SMALL CHASSIS MOUNT CONTROL TRANSFORMERS

- Used as a small 24 volt transformer for relay, pilot lights or low voltage, low power control use.
- 60 Hz. operation.
- Four primary voltage selections (120, 208, 347 and 600 VAC)
- Chassis mount.
- Minimum 10" leads.
- CSA certified 3AH (LR3902)
- UL listed (File #E50394)

Part Number	Primary Voltage (VAC)	Secondary Voltage (VAC)	Secondary Current (Amps)	VA	Overall Dimensions (Inches)			Mtg. Hole Centers (Inches) (D)
					Height (C)	Width (A)	Depth (B)	
PHC25JGA	120	24	1.04	25	2.31	3.69	2.13	3.13
PHC50JGA	120	24	2.08	50	2.63	4.00	2.50	3.56
PHC25LGA	208	24	1.04	25	2.31	3.69	2.13	3.13
PHC50LGA	208	24	2.08	50	2.63	4.00	2.50	3.56
PHC25KGA	347	24	1.04	25	2.31	3.69	2.13	3.13
PHC50KGA	347	24	2.08	50	2.63	4.00	2.50	3.56
PHC25AGA	600	24	1.04	25	2.31	3.69	2.13	3.13
PHC50AGA	600	24	2.08	50	2.63	4.00	2.50	3.56



Transformer Schematic



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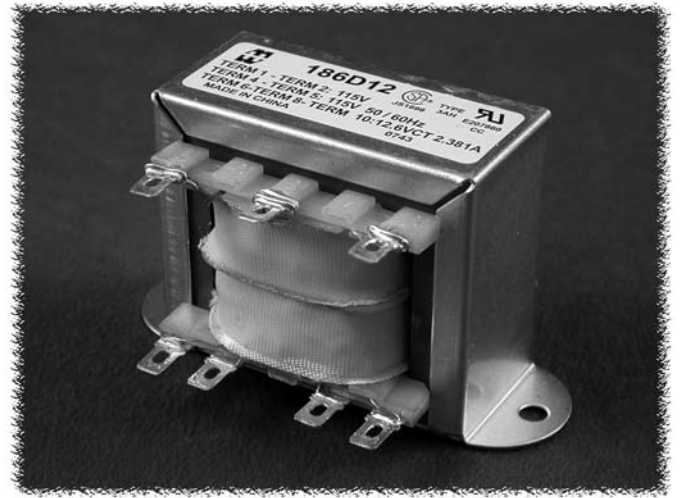


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L.V. Chassis Mount - Quick Connect (186/187 Series)

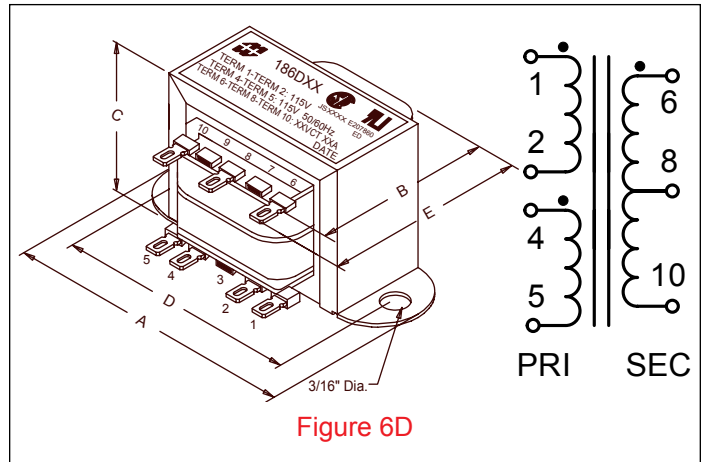
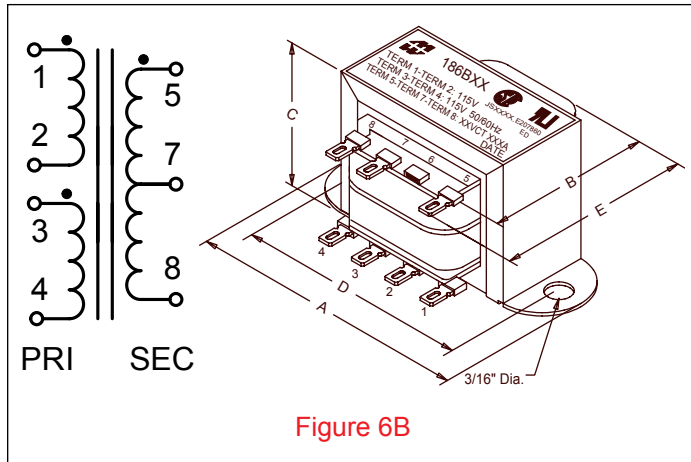
Power



LOW VOLTAGE - OPEN STYLE CHASSIS MOUNT

- Choice of two primaries: Single Primary 115VAC or Dual Primary 115/230 VAC.
- Either series operates on 50/60 Hz.
- Combination solder or quick connect terminals.
- Split bobbin construction eliminates need for electrostatic shield.
- Hi-pot tested to 2 KV RMS.
- Economical open style, channel frame - chassis mount design
- CSA certified & UL recognized

Transformer Schematics Dual Primary (186 Series)



VA Size	Dimensions (Inches)				
	Length (A)	Depth (Not Including Terminals) (B)	Height (C)	Mtg. Centers (D)	Depth To Terminal (E)
2.34 - 2.50	2.06	1.06	1.18	1.75	1.435
5.60 - 6.40	2.37	1.25	1.37	2.00	1.625
12 - 12.8	2.81	1.37	1.62	2.37	1.725
30 - 32	3.25	1.68	1.93	2.81	2.055
50 - 60	3.68	1.81	2.25	3.12	2.185
96 - 102	4.03	2.25	2.56	3.50	2.625

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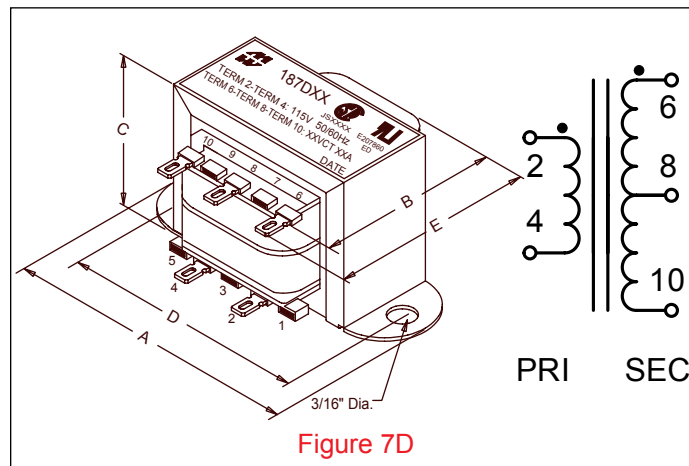
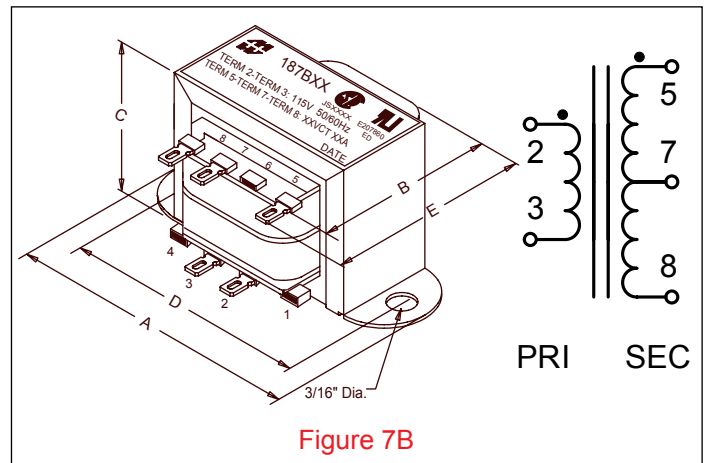
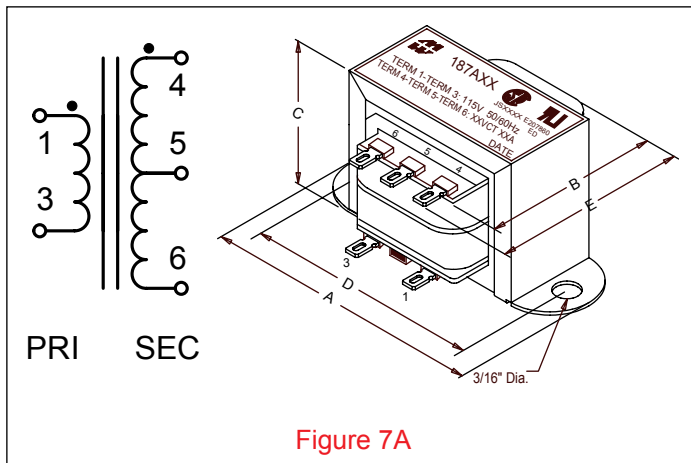
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L.V. Chassis Mount - Quick Connect (186/187 Series)

Power

Transformer Schematics Single Primary (187 Series)



VA Size	Dimensions (Inches)				
	Length (A)	Depth (Not Including Terminals) (B)	Height (C)	Mtg. Centers (D)	Depth To Terminal (E)
2.34 - 2.50	2.06	1.06	1.18	1.75	1.435
5.6 - 6.4	2.37	1.25	1.37	2.00	1.625
12.0 - 12.8	2.81	1.37	1.62	2.37	1.725
30 - 32	3.25	1.68	1.93	2.81	2.055
50 - 60	3.68	1.81	2.25	3.12	2.185
96 - 102	4.03	2.25	2.56	3.50	2.625



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L.V. Chassis Mount - Quick Connect (186/187 Series)

Power

Part Number Single Primary 115VAC	Fig.	Part Number Dual Primary 115/230VAC	Fig.	Secondary (RMS)		VA Rating
				VAC	Current (Amps)	
187A10	7A	NOT AVAILABLE	-	10V C.T.	0.25	2.5
187B10	7B	186B10	6B	10V C.T.	0.60	6.0
187C10	7B	186C10	6B	10V C.T.	1.20	12.0
187D10	7D	186D10	6D	10V C.T.	3.00	30.0
187E10	7D	186E10	6D	10V C.T.	5.00	50.0
187F10	7D	186F10	6D	10V C.T.	10.00	100.0
187A12	7A	NOT AVAILABLE	-	12.6V C.T.	0.19	2.5
187B12	7B	186B12	6B	12.6V C.T.	0.50	6.3
187C12	7B	186C12	6B	12.6V C.T.	1.00	12.6
187D12	7D	186D12	6D	12.6V C.T.	2.50	31.5
187E12	7D	186E12	6D	12.6V C.T.	4.00	50.4
187F12	7D	186F12	6D	12.6V C.T.	8.00	100.8
187A16	7A	NOT AVAILABLE	-	16V C.T.	0.15	2.4
187B16	7B	186B16	6B	16V C.T.	0.40	6.4
187C16	7B	186C16	6B	16V C.T.	0.80	12.8
187D16	7D	186D16	6D	16V C.T.	2.00	32.0
187E16	7D	186E16	6D	16V C.T.	3.50	56.0
187F16	7D	186F16	6D	16V C.T.	6.25	100.0
187A20	7A	NOT AVAILABLE	-	20V C.T.	0.12	2.4
187B20	7B	186B20	6B	20V C.T.	0.30	6.0
187C20	7B	186C20	6B	20V C.T.	0.60	12.0
187D20	7D	186D20	6D	20V C.T.	1.50	30.0
187E20	7D	186E20	6D	20V C.T.	2.80	56.0
187F20	7D	186F20	6D	20V C.T.	5.00	100.0
187A24	7A	NOT AVAILABLE	-	24V C.T.	0.10	2.4
187B24	7B	186B24	6B	24V C.T.	0.25	6.0
187C24	7B	186C24	6B	24V C.T.	0.50	12.0
187D24	7D	186D24	6D	24V C.T.	1.25	30.0
187E24	7D	186E24	6D	24V C.T.	2.40	57.6
187F24	7D	186F24	6D	24V C.T.	4.00	96.0
187A28	7A	NOT AVAILABLE	-	28V C.T.	0.08	2.4
187B28	7B	186B28	6B	28V C.T.	0.20	5.6
187C28	7B	186C28	6B	28V C.T.	0.42	12.0
187D28	7D	186D28	6D	28V C.T.	1.07	30.0
187E28	7D	186E28	6D	28V C.T.	2.00	56.0
187F28	7D	186F28	6D	28V C.T.	3.57	100.0
187A36	7A	NOT AVAILABLE	-	36V C.T.	0.06	2.34
187B36	7B	186B36	6B	36V C.T.	0.17	6.12
187C36	7B	186C36	6B	36V C.T.	0.35	12.6
187D36	7D	186D36	6D	36V C.T.	0.85	30.6
187E36	7D	186E36	6D	36V C.T.	1.50	54.0
187F36	7D	186F36	6D	36V C.T.	2.80	100.8
187A48	7A	NOT AVAILABLE	-	48V C.T.	0.05	2.4
187B48	7B	186B48	6B	48V C.T.	0.12	6.0
187C48	7B	186C48	6B	48V C.T.	0.25	12.0
187D48	7D	186D48	6D	48V C.T.	0.62	30.0
187E48	7D	186E48	6D	48V C.T.	1.20	57.6
187F48	7D	186F48	6D	48V C.T.	2.00	96.0
187A56	7A	NOT AVAILABLE	-	56V C.T.	0.04	2.5
187B56	7B	186B56	6B	56V C.T.	0.11	6.16
187C56	7B	186C56	6B	56V C.T.	0.21	12.3
187D56	7D	186D56	6D	56V C.T.	0.53	30.0
187E56	7D	186E56	6D	56V C.T.	1.00	56.0
187F56	7D	186F56	6D	56V C.T.	1.80	100.8
187A120	7A	NOT AVAILABLE	-	120V C.T.	0.02	2.4
187B120	7B	186B120	6B	120V C.T.	0.05	6.0
187C120	7B	186C120	6B	120V C.T.	0.10	12.0
187D120	7D	186D120	6D	120V C.T.	0.25	30.0
187E120	7D	186E120	6D	120V C.T.	0.50	60.0
187F120	7D	186F120	6D	120V C.T.	0.85	102.0

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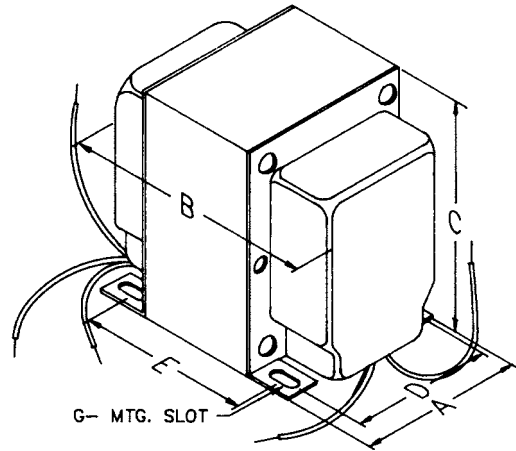
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Filament & L.V. Rectifier Use (167 Series)

Power



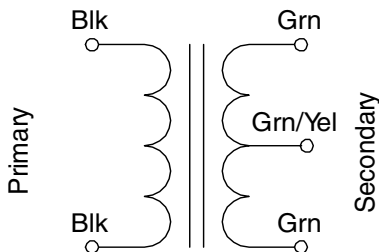
ENCLOSED FILAMENT & L.V. RECTIFIER USE TRANSFORMERS

- Primary 115 VAC, 60 Hz.
- All secondaries center tapped, VAC (RMS)
- Enclosed, 4 hole chassis mount.
- Minimum 6" long leads.
- Dual bobbin design - no electrostatic shield required.
- Class B insulation (130 degrees C).
- Hi-Pot test of 2,000V RMS.
- UL listed (# E50394) & CSA certified (# LR3902).

Dimension Table

Mtg. Style	Dimensions (Inches)					G-Mtg. Slot
	A	B	C	D	E	
X1	1.88	2.19	2.50	1.50	1.31	.19 x .31
X2	1.88	2.44	2.50	1.50	1.56	.19 x .31
X3	2.19	2.38	2.63	1.75	1.31	.19 x .25
X4	2.19	2.50	2.63	1.75	1.44	.19 x .25
X5	2.19	2.63	2.63	1.75	1.56	.19 x .25
X6	2.50	2.75	3.06	2.00	1.69	.203 x .38
X7	2.50	3.00	3.06	2.00	1.94	.203 x .38
X8	2.50	3.25	3.06	2.00	2.19	.203 x .38
X9	2.50	3.75	3.06	2.00	2.69	.203 x .38
X10	3.13	3.50	3.81	2.50	2.19	.203 x .38
X11	3.13	3.75	3.81	2.50	2.44	.203 x .38
X13	3.75	4.00	4.56	3.00	2.81	.203 x .38
X14	3.75	4.50	4.56	3.00	3.31	.203 x .38
X15	3.75	5.00	4.56	3.00	3.81	.203 x .38
X16	3.75	5.50	4.56	3.00	4.31	.203 x .38

Transformer Schematic



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Filament & L.V. Rectifier Use (167 Series)

Power

Primary 115 VAC 60 Hz.

Part No.	VA	Secondary (R.M.S.)		Dim Ref.
		VAC	Amps	
167M5	15	5 C.T.	3	X1
167Q5	30	5 C.T.	6	X2
167R5	40	5 C.T.	8	X4
167S5	50	5 C.T.	10	X5
167U5	75	5 C.T.	15	X6
167V5	100	5 C.T.	20	X8
167X5	150	5 C.T.	30	X10
167N6	25.2	6.3 C.T.	4	X2
167Q6	37.8	6.3 C.T.	6	X3
167R6	50.4	6.3 C.T.	8	X5
167S6	63	6.3 C.T.	10	X6
167T6	75.6	6.3 C.T.	12	X6
167U6	100.8	6.3 C.T.	16	X8
167U7	112.5	7.5 C.T.	15	X8
167V7	157.5	7.5 C.T.	21	X10
167N10	40	10 C.T.	4	X4
167P10	50	10 C.T.	5	X5
167R10	80	10 C.T.	8	X7
167S10	100	10 C.T.	10	X8
167P11	55	11 C.T.	5	X6
167S11	110	11 C.T.	10	X8
167U11	165	11 C.T.	15	X10
167L12	31.5	12.6 C.T.	2.5	X2
167N12	50.4	12.6 C.T.	4	X5
167Q12	75.6	12.6 C.T.	6	X6
167R12	100.8	12.6 C.T.	8	X8
167S12	126	12.6 C.T.	10	X9
167V12	252	12.6 C.T.	20	X13
167N14	56	14 C.T.	4	X6
167Q14	84	14 C.T.	6	X7
167M16	48	16 C.T.	3	X5
167P16	80	16 C.T.	5	X7
167M18	54	18 C.T.	3	X6
167P18	90	18 C.T.	5	X7
167S18	180	18 C.T.	10	X11
167U18	270	18 C.T.	15	X13
167V18	360	18 C.T.	20	X14
167M20	60	20 C.T.	3	X6
167P20	100	20 C.T.	5	X8
167U20	320	20 C.T.	16	X14
167T22	264	22 C.T.	12	X13
167V22	440	22 C.T.	20	X15
167L24	48	24 C.T.	2	X5

Primary 115 VAC 60 Hz.

Part No.	VA	Secondary (R.M.S.)		Dim Ref.
		VAC	Amps	
167J25	25	25 C.T.	1	X2
167K25	37.5	25 C.T.	1.5	X3
167M25	75	25 C.T.	3	X6
167N25	100	25 C.T.	4	X8
167P25	125	25 C.T.	5	X9
167S25	250	25 C.T.	10	X13
167J28	28	28 C.T.	1	X2
167L28	56	28 C.T.	2	X6
167M28	84	28 C.T.	3	X7
167K30	45	30 C.T.	1.5	X4
167M30	90	30 C.T.	3	X7
167P30	150	30 C.T.	5	X10
167S30	300	30 C.T.	10	X13
167J33	33	33 C.T.	1	X2
167J36	36	36 C.T.	1	X3
167L36	72	36 C.T.	2	X6
167M36	108	36 C.T.	3	X8
167P36	180	36 C.T.	5	X11
167R36	288	36 C.T.	8	X13
167T36	432	36 C.T.	12	X15
167L44	88	44 C.T.	2	X7
167J50	50	50 C.T.	1	X5
167L50	100	50 C.T.	2	X8
167P50	250	50 C.T.	5	X13
167G55	27.5	55 C.T.	0.5	X2
167J55	55	55 C.T.	1	X6
167L55	110	55 C.T.	2	X8
167G60	30	60 C.T.	0.5	X2
167J60	60	60 C.T.	1	X6
167L60	120	60 C.T.	2	X9
167M60	180	60 C.T.	3	X11
167P60	300	60 C.T.	5	X13
167S64	640	64 C.T.	10	X16
167L70	140	70 C.T.	2	X9
167N70	280	70 C.T.	4	X13
167G80	40	80 C.T.	0.5	X4
167J80	80	80 C.T.	1	X7
167L80	160	80 C.T.	2	X10
167N80	320	80 C.T.	4	X14
167G100	50	100 C.T.	0.5	X5
167J100	100	100 C.T.	1	X8
167P100	500	100 C.T.	5	X16
167G120	60	120 C.T.	0.5	X6
167H200	174	200 C.T.	0.87	X11

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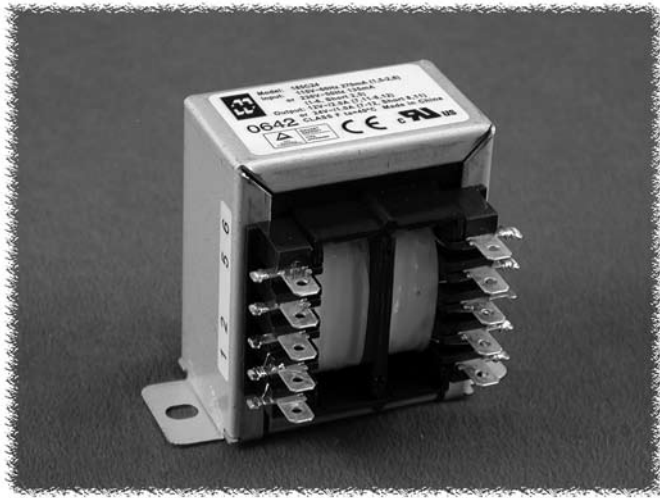
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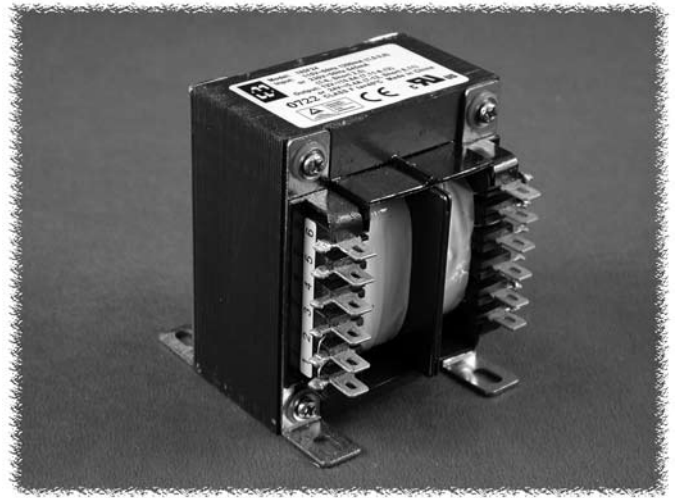


Global Use-Terminal Connection (185 Series)

Power



25 & 43 VA Mount
(Figure A)

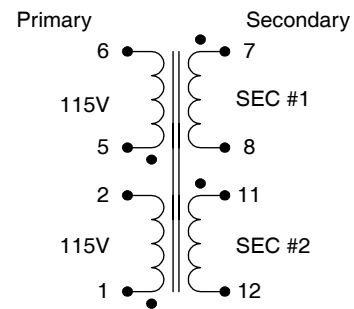


80, 130 & 175 VA Mount
(Figure B)

GLOBAL USE - CHASSIS MOUNT POWER TRANSFORMERS

- Dual primary 115/230 VAC
- 50/60 Hz. operation
- Dual secondaries for series or parallel connections
- 4,000 V RMS Hipot test
- Class F insulation (155 degrees, C)
- Chassis mount
- 5 different VA sizes to choose from
- Dual bobbin construction
- Dual use terminals (solder lug or quick connect)
- C UL US recognized
- TUV Type Approved
- CE certified to IEC 950 (Approved to EN 60-742 Safety Isolating Transformers)

Transformer Schematic



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Global Use - Terminal Connection (185 Series)

Power

Dual Primary 115/230 VAC 50/60 Hz.

Part No.	VA	Secondary VAC (R.M.S.)		Dimensions (Inches)			Weight (lbs)	Fig.	Hole to Hole Mtg. Dim. (Inches)	
		Series	Parallel	W	D	H			W	D
185C10	25	10V C.T. @ 2.5A	5V @ 5.0A	2.81	2.22	2.31	1.25	A	2.37	-
185D10	43	10V C.T. @ 4.3A	5V @ 8.6A	3.12	2.22	2.68	1.75	A	2.81	-
185E10	80	10V C.T. @ 8.0A	5V @ 16.0A	2.50	2.61	3.00	2.50	B	2.00	2.18
185F10	130	10V C.T. @ 13.0A	5V @ 26.0A	2.81	3.07	3.37	4.00	B	2.25	2.50
185G10	175	10V C.T. @ 17.5A	5V @ 35.0A	3.12	3.20	3.75	5.00	B	2.50	2.50
185C12	25	12.6V C.T. @ 2.0A	6.3V @ 4.0A	2.81	2.22	2.31	1.25	A	2.37	-
185D12	43	12.6V C.T. @ 3.4A	6.3V @ 6.8A	3.12	2.22	2.68	1.75	A	2.81	-
185E12	80	12.6V C.T. @ 6.3A	6.3V @ 12.6A	2.50	2.61	3.00	2.50	B	2.00	2.18
185F12	130	12.6V C.T. @ 10.3A	6.3V @ 20.6A	2.81	3.07	3.37	4.00	B	2.25	2.50
185G12	175	12.6V C.T. @ 14.0A	6.3V @ 28.0A	3.12	3.20	3.75	5.00	B	2.50	2.50
185C16	25	16V C.T. @ 1.6A	8V @ 3.2A	2.81	2.22	2.31	1.25	A	2.37	-
185D16	43	16V C.T. @ 2.7A	8V @ 5.4A	3.12	2.22	2.68	1.75	A	2.81	-
185E16	80	16V C.T. @ 5.0A	8V @ 10.0A	2.50	2.61	3.00	2.50	B	2.00	2.18
185F16	130	16V C.T. @ 8.1A	8V @ 16.2A	2.81	3.07	3.37	4.00	B	2.25	2.50
185G16	175	16V C.T. @ 11.0A	8V @ 22.0A	3.12	3.20	3.75	5.00	B	2.50	2.50
185C20	25	20V C.T. @ 1.25A	10V @ 2.5A	2.81	2.22	2.31	1.25	A	2.37	-
185D20	43	20V C.T. @ 2.2A	10V @ 4.4A	3.12	2.22	2.68	1.75	A	2.81	-
185E20	80	20V C.T. @ 4.0A	10V @ 8.0A	2.50	2.61	3.00	2.50	B	2.00	2.18
185F20	130	20V C.T. @ 6.5A	10V @ 13.0A	2.81	3.07	3.37	4.00	B	2.25	2.50
185G20	175	20V C.T. @ 8.8A	10V @ 17.6A	3.12	3.20	3.75	5.00	B	2.50	2.50
185C24	25	24V C.T. @ 1.0A	12V @ 2.0A	2.81	2.22	2.31	1.25	A	2.37	-
185D24	43	24V C.T. @ 1.8A	12V @ 3.6A	3.12	2.22	2.68	1.75	A	2.81	-
185E24	80	24V C.T. @ 3.3A	12V @ 6.6A	2.50	2.61	3.00	2.50	B	2.00	2.18
185F24	130	24V C.T. @ 5.4A	12V @ 10.8A	2.81	3.07	3.37	4.00	B	2.25	2.50
185G24	175	24V C.T. @ 7.3A	12V @ 14.6A	3.12	3.20	3.75	5.00	B	2.50	2.50
185C28	25	28V C.T. @ 0.9A	14V @ 1.86A	2.81	2.22	2.31	1.25	A	2.37	-
185D28	43	28V C.T. @ 1.5A	14V @ 3.0A	3.12	2.22	2.68	1.75	A	2.81	-
185E28	80	28V C.T. @ 2.8A	14V @ 5.6A	2.50	2.61	3.00	2.50	B	2.00	2.18
185F28	130	28V C.T. @ 4.6A	14V @ 9.2A	2.81	3.07	3.37	4.00	B	2.25	2.50
185G28	175	28V C.T. @ 6.25A	14V @ 12.5A	3.12	3.20	3.75	5.00	B	2.50	2.50
185C36	25	36V C.T. @ 0.7A	18V @ 1.4A	2.81	2.22	2.31	1.25	A	2.37	-
185D36	43	36V C.T. @ 1.2A	18V @ 2.4A	3.12	2.22	2.68	1.75	A	2.81	-
185E36	80	36V C.T. @ 2.2A	18V @ 4.4A	2.50	2.61	3.00	2.50	B	2.00	2.18
185F36	130	36V C.T. @ 3.6A	18V @ 7.2A	2.81	3.07	3.37	4.00	B	2.25	2.50
185G36	175	36V C.T. @ 4.8A	18V @ 9.6A	3.12	3.20	3.75	5.00	B	2.50	2.50
185C230	25	230V C.T. @ 0.11A	115V @ 0.22A	2.81	2.22	2.31	1.25	A	2.37	-
185D230	43	230V C.T. @ 0.19A	115V @ 0.38A	3.12	2.22	2.68	1.75	A	2.81	-
185E230	80	230V C.T. @ 0.35A	115V @ 0.7A	2.50	2.61	3.00	2.50	B	2.00	2.18
185F230	130	230V C.T. @ 0.57A	115V @ 1.14A	2.81	3.07	3.37	4.00	B	2.25	2.50
185G230	175	230V C.T. @ 0.76A	115V @ 1.52A	3.12	3.20	3.75	5.00	B	2.50	2.50

VA Size	Fig.	Terminal Lug Data	
		Width	Thickness
25, 43	A	0.187"	0.020"
80, 130 & 175	B	0.25"	0.032"

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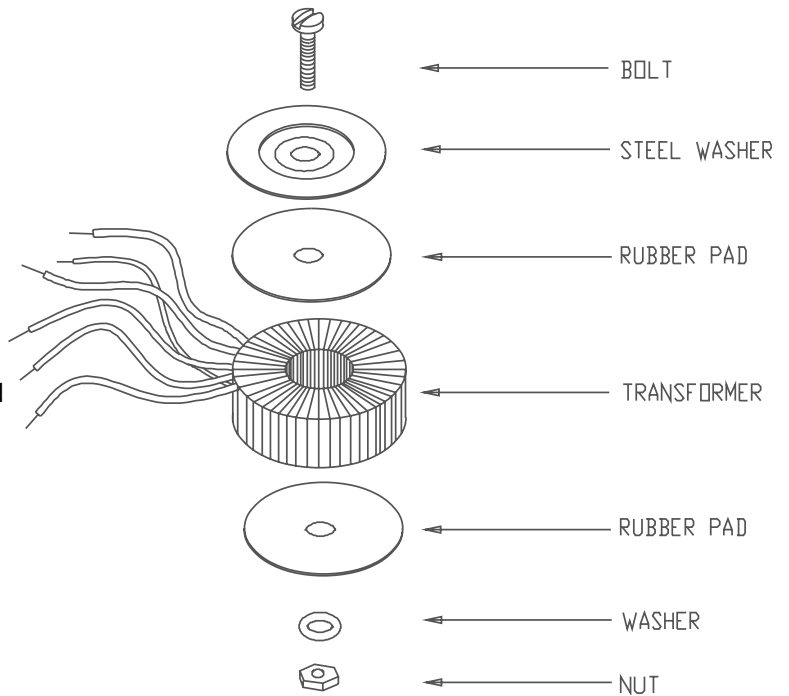
Toroidal (182 Series)

Power



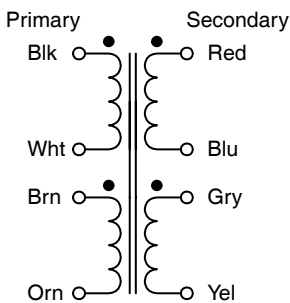
TOROIDAL POWER TRANSFORMERS

- Low profile, lightweight, cool running - due to high efficiency toroidal design
- Dual 117/234 VAC primary, 50/60 Hz. operation
- Center single hole mounting
- Supplied with two rubber insulating pads, one metal centering washer and all mounting hardware
- Center bolt size is 10-24 x 3 inch RHMS zinc plated
- Minimum 8" long flexible leads
- Due to toroid design - no electrostatic shield required
- Hi-Pot test of 4,000V RMS between primary & secondary
- CSA certified to C22.2 #66 - CSA file #209651
- UL recognized to UL506 - UL file #E207860
- CE certified to IEC950

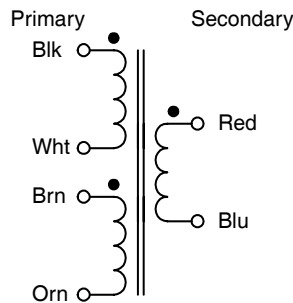


Transformer Schematics

Dual Secondary Schematic



Single Secondary Schematic



Dimension Table

Dim. Ref.	Outside Diameter (Inches)	Height (Inches)	Weight (Lbs.)
A	3.20	1.25	0.76
B	2.95	1.60	1.12
C	3.63	1.73	1.67
D	3.73	1.52	2.15
E	3.98	1.68	2.84
F	4.43	1.73	3.87
G	4.97	1.90	4.96
H	5.06	2.27	5.58
I	5.50	2.21	8.46
J	6.10	3.10	10.38
K	6.40	3.10	13.53
L	6.50	3.50	16.49
M	7.20	3.50	24.97

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Dual Primary 117/234 VAC 50/60 Hz.

Part No.	VA	Dual Secondary VAC (R.M.S.)		Dim. Ref
		Series	Parallel	
182K6	15	12V C.T. @ 1.25A	6V @ 2.5A	A
182L6	30	12V C.T. @ 2.5A	6V @ 5A	B
182N6	50	12V C.T. @ 4.17A	6V @ 8.34A	C
182Q6	80	12V C.T. @ 6.67A	6V @ 13.34A	D
182H9	15	18V C.T. @ .83A	9V @ 1.66A	A
182K9	30	18V C.T. @ 1.67A	9V @ 3.34A	B
182M9	50	18V C.T. @ 2.78A	9V @ 5.56A	C
182N9	80	18V C.T. @ 4.44A	9V @ 8.88A	D
182Q9	120	18V C.T. @ 6.67A	9V @ 13.34A	E
182G12	15	24V C.T. @ .63A	12V @ 1.26A	A
182K12	30	24V C.T. @ 1.25A	12V @ 2.5A	B
182L12	50	24V C.T. @ 2.08A	12V @ 4.16A	C
182M12	80	24V C.T. @ 3.33A	12V @ 6.66A	D
182P12	120	24V C.T. @ 5A	12V @ 10A	E
182Q12	160	24V C.T. @ 6.67A	12V @ 13.34A	F
182S12	225	24V C.T. @ 9.38A	12V @ 18.76A	G
182T12	300	24V C.T. @ 12.5A	12V @ 25A	H
182G15	15	30V C.T. @ .5A	15V @ 1A	A
182J15	30	30V C.T. @ 1A	15V @ 2A	B
182K15	50	30V C.T. @ 1.67A	15V @ 3.34A	C
182M15	80	30V C.T. @ 2.67A	15V @ 5.34A	D
182N15	120	30V C.T. @ 4A	15V @ 8A	E
182P15	160	30V C.T. @ 5.33A	15V @ 10.66A	F
182H15	225	30V C.T. @ 7.5A	15V @ 15A	G
182S15	300	30V C.T. @ 10A	15V @ 20A	H
182F18	15	36V C.T. @ .42A	18V @ .84A	A
182H18	30	36V C.T. @ .83A	18V @ 1.66A	B
182J18	50	36V C.T. @ 1.39A	18V @ 2.78A	C
182L18	80	36V C.T. @ 2.22A	18V @ 4.44A	D
182M18	120	36V C.T. @ 3.33A	18V @ 6.66A	E
182N18	160	36V C.T. @ 4.44A	18V @ 8.88A	F
182G18	225	36V C.T. @ 6.25A	18V @ 12.5A	G
182F22	15	44V C.T. @ .34A	22V @ .68A	A
182G22	30	44V C.T. @ .68A	22V @ 1.36A	B
182J22	50	44V C.T. @ 1.14A	22V @ 2.28A	C
182L22	80	44V C.T. @ 1.82A	22V @ 3.64A	D
182M22	120	44V C.T. @ 2.73A	22V @ 5.46A	E
182N22	160	44V C.T. @ 3.64A	22V @ 7.28A	F
182P22	225	44V C.T. @ 5.11A	22V @ 10.22A	G
182S24	500	48V C.T. @ 10.42A	24V @ 20.84A	I
182T24	625	48V C.T. @ 13.02A	24V @ 26.04A	J
182U24	750	48V C.T. @ 15.63A	24V @ 31.26A	K
182V24	1000	48V C.T. @ 20.8A	24V @ 41.6A	L
182K30	80	60V C.T. @ 1.33A	30V @ 2.66A	D
182L30	120	60V C.T. @ 2A	30V @ 4A	E
182M30	160	60V C.T. @ 2.67A	30V @ 5.34A	F
182F30	225	60V C.T. @ 3.75A	30V @ 7.5A	G
182P30	300	60V C.T. @ 5A	30V @ 10A	H
182R30	500	60V C.T. @ 8.33A	30V @ 16.66A	I
182S30	625	60V C.T. @ 10.42A	30V @ 20.84A	J
182T30	750	60V C.T. @ 12.5A	30V @ 25A	K
182U30	1000	60V C.T. @ 16.7A	30V @ 33.4A	L

Dual Primary 117/234 VAC 50/60 Hz.

Part No.	VA	Dual Secondary VAC (R.M.S.)		Dim. Ref
		Series	Parallel	
182V40	1500	80V C.T. @ 18.8A	40V @ 37.6A	M
182L60	300	120V C.T. @ 2.5A	60V @ 5A	H
182N60	500	120V C.T. @ 4.17A	60V @ 8.34A	I
182P60	625	120V C.T. @ 5.21A	60V @ 10.42A	J
182Q60	750	120V C.T. @ 6.25A	60V @ 12.5A	K
182R60	1000	120V C.T. @ 8.3A	60V @ 16.6A	L
182T60	1500	120V C.T. @ 12.5A	60V @ 25A	M
182D110	15	220V C.T. @ 68ma	110V @ 136ma	A
182E110	30	220V C.T. @ 136ma	110V @ 272ma	B
182G110	50	220V C.T. @ 227ma	110V @ 454ma	C
182H110	80	220V C.T. @ 364ma	110V @ 728ma	D
182J110	120	220V C.T. @ 545ma	110V @ 1.09A	E
182K110	160	220V C.T. @ 727ma	110V @ 1.45A	F
182L110	225	220V C.T. @ 1.02A	110V @ 2.04A	G
182M110	300	220V C.T. @ 1.36A	110V @ 2.72A	H
182P110	500	220V C.T. @ 2.27A	110V @ 4.54A	I
182Q110	625	220V C.T. @ 2.84A	110V @ 5.68A	J
182R110	750	220V C.T. @ 3.41A	110V @ 6.82A	K
182S110	1000	220V C.T. @ 4.5A	110V @ 9A	L
182U110	1500	220V C.T. @ 6.8A	110V @ 13.6A	M
182D117	15	234V C.T. @ 64ma	117V @ 128ma	A
182E117	30	234V C.T. @ 128ma	117V @ 256ma	B
182G117	50	234V C.T. @ 214ma	117V @ 428ma	C
182H117	80	234V C.T. @ 342ma	117V @ 684ma	D
182J117	120	234V C.T. @ 513ma	117V @ 1.02A	E
182K117	160	234V C.T. @ 684ma	117V @ 1.37A	F
182L117	225	234V C.T. @ .96A	117V @ 1.92A	G
182M117	300	234V C.T. @ 1.28A	117V @ 2.56A	H
182N117	500	234V C.T. @ 2.14A	117V @ 4.28A	I
182P117	625	234V C.T. @ 2.67A	117V @ 5.34A	J
182Q117	750	234V C.T. @ 3.21A	117V @ 6.42A	K
182R117	1000	234V C.T. @ 4.3A	117V @ 8.6A	L
182T117	1500	234V C.T. @ 6.4A	117V @ 12.8A	M

Dual Primary 117/234 VAC 50/60 Hz.

Part No.	VA	Single Secondary VAC (R.M.S.)	Dim. Ref
182B240	15	240V @ 63ma	A
182D240	30	240V @ 125ma	B
182E240	50	240V @ 208ma	C
182F240	80	240V @ 333ma	D
182G240	120	240V @ .5A	E
182H240	160	240V @ 667ma	F
182J240	225	240V @ .94A	G
182K240	300	240V @ 1.25A	H
182L240	500	240V @ 2.08A	I
182M240	625	240V @ 2.6A	J
182N240	750	240V @ 3.13A	K
182P240	1000	240V @ 4.17A	L
182Q240	1500	240V @ 6.3A	M

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"Classic" Plate & Filament - Chassis Mount (260 Series)

Power

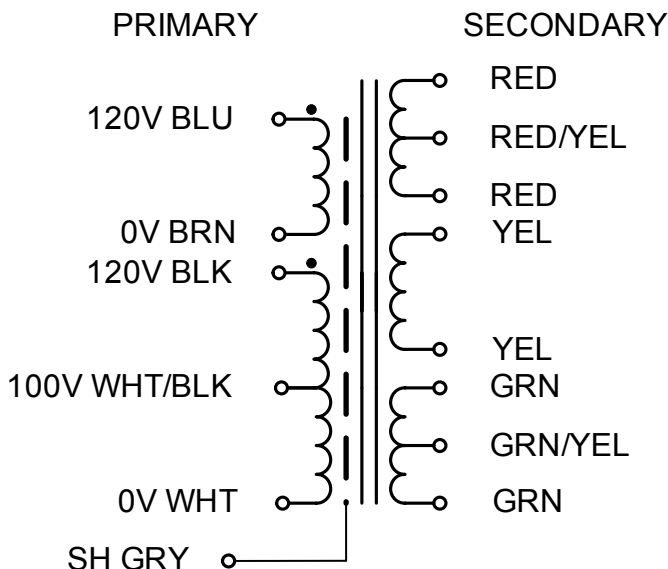


"CLASSIC" - UNIVERSAL PRIMARY PLATE & FILAMENT

- Universal primary with taps for 100, 120, 220 or 240 VAC, 50/60 Hz.
- Designed for preamps, low power amps, general replacement, test equipment, etc.
- Units include a Faraday shield between the primary and secondary windings.
- Economical, two hole (.187 dia. = G) channel bracket or four hole, open frame - chassis mount.
- Minimum 5" long leads.
- For more selection see our "300" series of universal plate & filament transformers.

Part No.	VA	A.C. Secondary #1		A.C. Filament Sec. #2 RMS	A.C. Filament Sec. #3 RMS	Figure #	Dimensions (Inches)					
		RMS	DC (ma)				A	B	C	D	E	G
260A	25	200-0-200	40	6.3V C.T. @ 1A	-	1	3.25	2.00	2.00	2.81	-	0.187
260C	65	250-0-250	75	5V @ 2A	6.3V C.T. @ 2A	1	4.03	2.65	2.625	3.56	-	0.187
260E	80	225-0-225	100	5V @ 2A	6.3V C.T. @ 3A	2	3.00	3.06	2.53	2.50	2.40	0.206 x 0.377
260G	175	275-0-275	200	5V @ 3A	6.3V C.T. @ 5A	2	3.75	3.50	3.135	3.25	3.25	0.203 x 0.375
260J	152	325-0-325	150	5V @ 2A	6.3V C.T. @ 4A	2	3.75	3.13	3.13	3.125	2.75	0.218 x 0.562
260K	197	325-0-325	200	5V @ 3A	6.3V C.T. @ 5A	2	4.50	3.25	3.75	3.75	3.00	0.218 x 0.562
260M	248	350-0-350	250	5V @ 3A	6.3V C.T. @ 5A	2	4.50	3.25	3.75	3.75	3.00	0.218 x 0.562

Transformer Schematic



Notes:

- This series is designed to operate with **both** primary windings energized for maximum efficiency.
- The gray wire (connected to the core) marked SH (shield) should remain grounded.

For wiring diagrams - visit our website:

www.hammondmfg.com

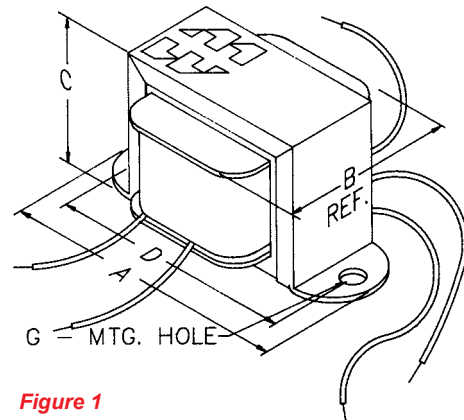


Figure 1

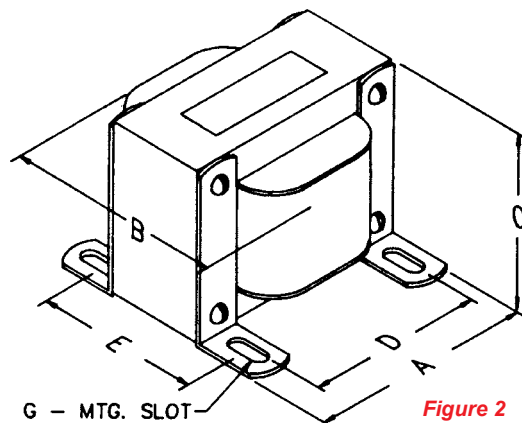


Figure 2



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"Classic" Plate & Filament - Chassis Mount (261/262 Series)

"CLASSIC" LOW POWER PLATE & FILAMENT OR BIAS TRANSFORMERS

- Primary 115 VAC, 60 Hz.
- Designed for small power or bias supplies, test equipment, preamps etc.
- Models 261C6, 261E6, and 261G6 can also be used with full wave C.T. rectifiers.
- Economical, two hole, channel bracket, chassis mount.
- Minimum 5" long leads.
- Convenient 6.3 or 12.6 volt filament/auxiliary winding.



Power

Part No.	VA	A.C. Secondary #1 RMS	A.C. Filament Sec. #2 RMS	Schematic Figure #	Dimensions (Inches)					Wt. Lb.
					A	B	C	D	G	
261C6	17.5	250V C.T. @ 45ma	6.3V @ 1A	1	3.25	1.65	2.00	2.81	0.187	1
261E6	29	250V C.T. @ 91ma	6.3V @ 1A	1	3.69	1.85	2.31	3.13	0.187	1.7
261G6	45	250V C.T. @ 130ma	6.3V @ 2A	1	4.00	2.25	2.63	3.56	0.187	2
261M6	83	215V @ 269ma	6.3V @ 4A	2	4.50	2.50	2.93	4.00	0.203 x 0.313	4
262B6	7	120V @ 43ma	6.3V @ 0.3A	2	2.81	1.50	1.68	2.38	0.187	0.6
262B12	7	120V @ 45ma	12.6V @ 0.3A	2	2.81	1.50	1.68	2.38	0.187	0.6
262B24	7	120V @ 27ma	12/12V @ 0.2/0.2A	3	2.81	1.50	1.68	2.38	0.187	0.6
262D6	12	120V @ 53ma	6.3V @ 0.9A	2	3.25	1.62	2.00	2.81	0.187	1
262D12	12	120V @ 53ma	12.6V @ 0.45A	2	3.25	1.62	2.00	2.81	0.187	1
262E6	18	120V @ 87ma	6.3V @ 1.2A	2	3.25	2.00	2.00	2.81	0.187	1.3
262E12	18	120V @ 87ma	12.6V @ 0.6A	2	3.25	2.00	2.00	2.81	0.187	1.3
262F6	26	120V @ 140ma	6.3V @ 1.5A	2	3.69	1.85	2.31	3.13	0.187	1.7
262F12	26	120V @ 140ma	12.6V @ 0.75A	2	3.69	1.85	2.31	3.13	0.187	1.5

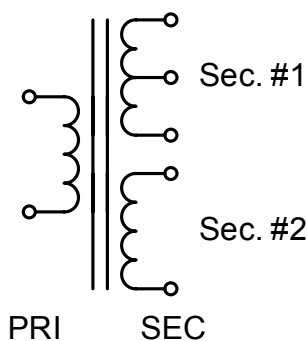


Figure 1

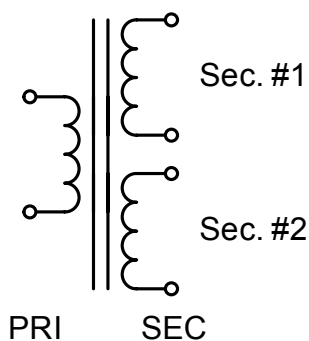


Figure 2

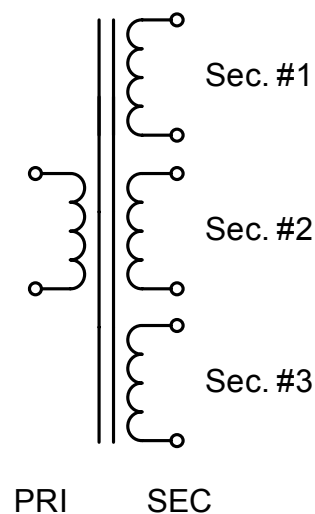
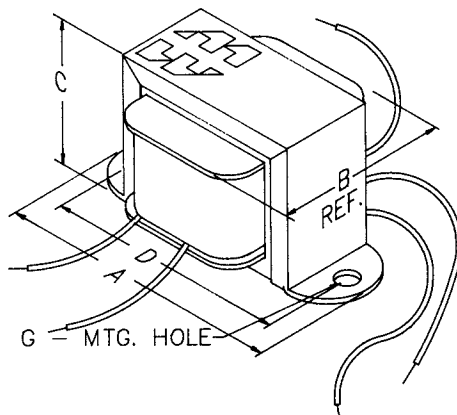


Figure 3



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"Classic" Plate & Filament (263-282 Series)

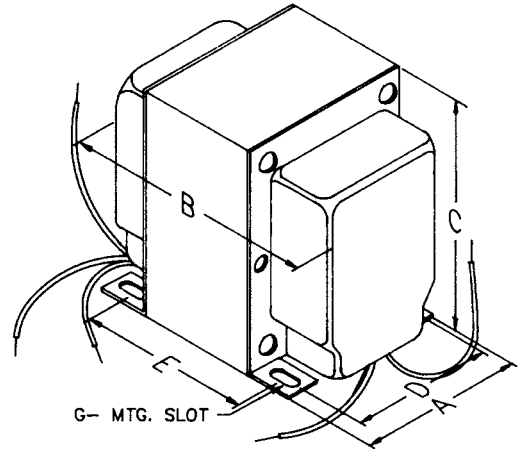
Power



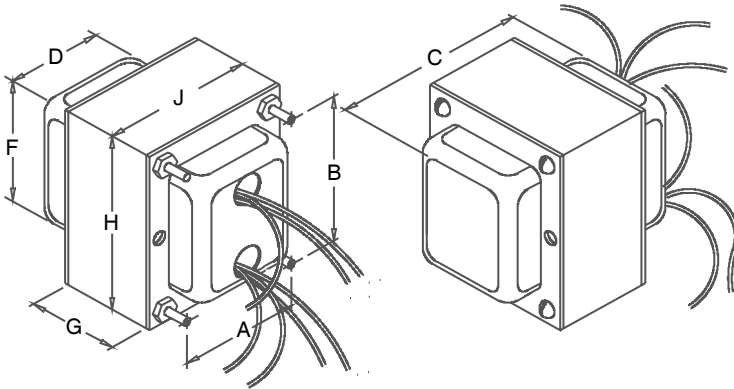
"CLASSIC" PLATE & FILAMENT ENCLOSED POWER TRANSFORMERS

- Primary 115 VAC, 60 Hz. - except as noted (for "universal" primaries and other NEW voltage combinations see our NEW "300" Series).
- H.V. DC current below, measured with cap. input filter, full wave (two diode) C.T., rectifier circuit.
- Enclosed, 4 hole chassis mount.
- Minimum 6" long leads.
- Class A insulation (105 degrees C).
- Hi-Pot test of 2,000V RMS.
- Conservative designs - CSA certified (# LR3902).

"X" Mounting - Drawing



"Z" Mounting - Drawing



"X" Mounting - Dimension Table

Mtg. Style	Dimensions (Inches)					G-Mtg. Slot
	A	B	C	D	E	
X2	1.88	2.44	2.50	1.50	1.56	.19 x .31
X4	2.19	2.50	2.63	1.75	1.44	.19 x .25
X5	2.19	2.63	2.63	1.75	1.56	.19 x .25
X6	2.50	2.75	3.06	2.00	1.69	.203 x .38
X7	2.50	3.00	3.06	2.00	1.94	.203 x .38
X7A	2.50	3.00	3.13	2.00	2.06	.203 x .38
X7B	2.50	3.00	3.13	2.00	2.19	.203 x .38
X8	2.50	3.25	3.06	2.00	2.19	.203 x .38
X9	2.50	3.75	3.06	2.00	2.69	.203 x .38
X9A	2.88	3.50	3.50	2.25	2.44	.203 x .38
X9B	3.13	3.50	3.50	2.50	2.38	.203 x .38
X10	3.13	3.50	3.81	2.50	2.19	.203 x .38
X10A	3.13	3.50	3.88	2.50	2.38	.203 x .38
X11	3.13	3.75	3.81	2.50	2.44	.203 x .38
X13	3.75	4.00	4.56	3.00	2.81	.203 x .38
X14	3.75	4.50	4.56	3.00	3.31	.203 x .38
X15	3.75	5.00	4.56	3.00	3.81	.203 x .38
X19	3.13	4.00	3.81	2.50	2.69	.203 x .38

"Z" Mounting - Dimension Table

Mtg. Style	Dimensions (Inches)							
	A	B	C	D	F	G	H	J
Z6	2.00	2.50	2.50	1.75	2.00	1.06	3.00	2.50
Z7	2.25	2.88	3.25	1.88	2.38	1.25	3.38	2.81
Z8	2.25	2.81	3.63	1.75	2.25	1.50	3.38	2.81
Z9	2.50	3.13	3.81	2.00	2.69	1.33	3.75	3.13



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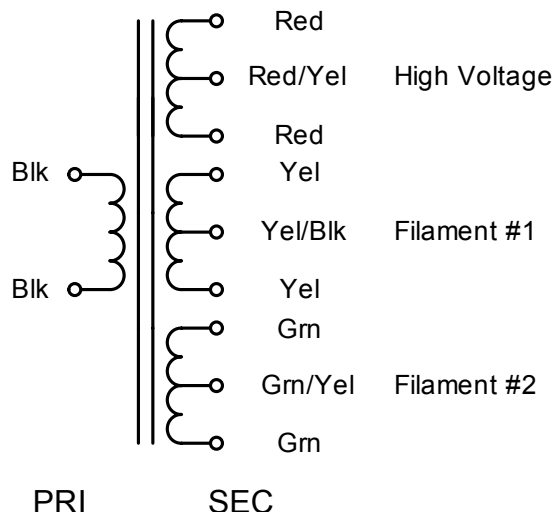
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"Classic" Plate & Filament (263-282 Series)

Power

Part No.	VA	Primary		Secondary		Filament #1 (VAC)	Filament #2 (VAC)	Dim. Ref.
		VAC	Hz.	(R.M.S.)	DC (ma.)			
263AX	32	115	60	100-0-100	100	5V @ 2A	-	X2
269AX	40	115	60	125-0-125	100	6.3V @ 2A	-	X4
269BX	38	115	60	150-0-150	75	6.3V @ 2A	-	X4
263CX	116	115	60	180-0-180	250	5V @ 3A C.T.	-	X9
269EX	43	115	60	190-0-190	65	6.3V @ 2.5A	-	X5
269GX	48	115	60	225-0-225	65	6.3V @ 2.5A	-	X5
270X	41	115	60	240-0-240	40	5V @ 2A	6.3V @ 1.5A	X4
270AX	42	115	60	240-0-240	50	6.3V @ 2.5A	-	X4
269JX	50	115	60	250-0-250	60	6.3V @ 2.5A	-	X5
270CAX	65	117	50/60	250-0-250	70	5V @ 2A	6.3V @ 2.5A	X7A
270DAX	76	117	50/60	260-0-260	90	6.3V @ 3.5A	-	X7B
270DAZ	76	117	60	260-0-260	90	6.3V @ 3.5A	-	Z7
270BX	53	115	60	275-0-275	50	5V @ 2A	6.3V @ 2A	X6
270CX	59	115	60	275-0-275	65	6.3V @ 0.6A	6.3V @ 2.5A	X6
270DX	83	115	60	275-0-275	90	5V @ 2A	6.3V @ 3A	X7
270EX	118	115	60	275-0-275	125	5V @ 3A	6.3V @ 4A	X9
270FX	138	115	60	275-0-275	150	5V @ 3A	6.3V @ 5A C.T.	X10
270HX	176	115	60	275-0-275	200	5V @ 3A C.T.	6.3V @ 6A C.T.	X19
271X	63	115	60	280-0-280	60	5V @ 2A	6.3V @ 2A C.T.	X6
272BX	95	115	60	300-0-300	100	5V @ 2A	6.3V @ 3A	X8
272DX	123	115	60	300-0-300	125	5V @ 3A	6.3V @ 4A	X9
272FX	146	115	60	300-0-300	150	5V @ 3A C.T.	6.3V @ 5A C.T.	X10
272HX	186	115	60	300-0-300	200	5V @ 3A C.T.	6.3V @ 6A C.T.	X19
272JX	236	115	60	300-0-300	250	5V @ 4A C.T.	6.3V @ 8A C.T.	X13
272X	74	115	60	310-0-310	70	5V @ 2A	6.3V @ 2.4A	X7
276X	150	115	60	320-0-320	150	5V @ 3A C.T.	6.3V @ 5A C.T.	X10
273AZ	49	117	50/60	325-0-325	40	5V @ 2A	6.3V @ 2A	Z6
273CZ	159	117	50/60	325-0-325	150	5V @ 3A	6.3V @ 5A C.T.	Z9
273DX	101	117	50/60	350-0-350	90	5V @ 2A	6.3V @ 3A C.T.	X9A
273DZ	101	117	50/60	350-0-350	90	5V @ 2A	6.3V @ 3A C.T.	Z8
273X	120	115	60	350-0-350	110	5V @ 2A	6.3V @ 4A C.T.	X9
273BX	182	115	60	350-0-350	175	5V @ 3A	6.3V @ 5A C.T.	X19
274AX	137	117	50/60	360-0-360	120	5V @ 3A	6.3V @ 3.5A C.T.	X10A
274X	138	115	60	375-0-375	110	5V @ 3A	6.3V @ 5A C.T.	X10
274BX	198	115	60	375-0-375	175	5V @ 3A C.T.	6.3V @ 6A C.T.	X19
275X	167	115	60	400-0-400	135	5V @ 3A C.T.	6.3V @ 5A C.T.	X11
278X	229	115	60	400-0-400	200	5V @ 3A C.T.	6.3V @ 6A C.T.	X19
278CX	454	115	60	400-0-400	465	6.3V @ 6A C.T.	-	X15
279X	186	115	60	425-0-425	150	5V @ 3A	6.3V @ 5A C.T.	X19
282X	273	115	60	500-0-500	200	5V @ 3A C.T.	6.3V @ 6A C.T.	X14



Notes : Filament #1 and #2 windings may not exist or may not have C.T. connections. Refer to table above.

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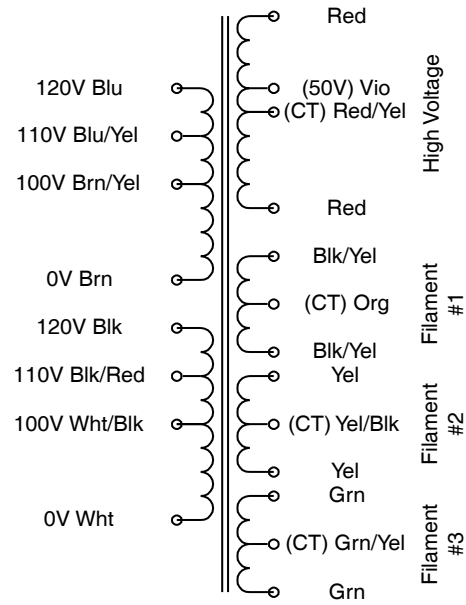


"Classic" Plate & Filament - Universal Primary (300 Series)

Power



Transformer Schematic



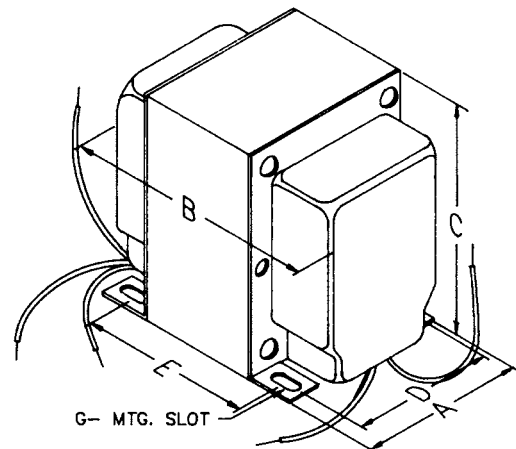
"CLASSIC" PLATE & FILAMENT UNIVERSAL PRIMARY POWER TRANSFORMERS

- Primary: Universal - 100, 110, 120, 200, 220, 240 VAC 50/60 Hz.
- Secondary: High voltage designed for full wave C.T. use. See chart below (High voltage current is D.C. using C.T. Full Wave rectifier - capacitor input).
- Bias Tap: 50 VAC tap from high voltage secondary C.T.
- Highpot tested: 2,000 VAC
- Finish: Black powder painted to match our 1650 series of output transformers
- Windings: Concentric wound for low stray field and low noise
- Models: Includes our entire "200" SERIES range of units PLUS 2 models designed specifically for 300B tubes (Part Number 300BX) and 2A3 tubes (Part Number 302AX).
- For a more economical, open frame, universal primary - see our "260" series.

"X" Mounting Dimension Table

Mtg. Style	Dimensions (Inches)					G - Mtg. Slot
	A	B	C	D	E	
X2	1.88	2.44	2.50	1.50	1.56	.19 X .31
X4	2.19	2.50	2.63	1.75	1.44	.19 X .25
X5	2.19	2.63	2.63	1.75	1.56	.19 X .25
X6	2.50	2.75	3.06	2.00	1.69	.203 X .38
X7	2.50	3.00	3.06	2.00	1.94	.203 X .38
X8	2.50	3.25	3.06	2.00	2.19	.203 X .38
X9	2.50	3.75	3.06	2.00	2.69	.203 X .38
X10	3.13	3.50	3.81	2.50	2.19	.203 X .38
X11	3.13	3.75	3.81	2.50	2.44	.203 X .38
X13	3.75	4.00	4.56	3.00	2.81	.203 X .38
X14	3.75	4.50	4.56	3.00	3.31	.203 X .38
X15	3.75	5.00	4.56	3.00	3.81	.203 X .38
X19	3.13	4.00	3.81	2.50	2.69	.203 X .38
X20	3.13	4.25	3.81	2.50	2.94	.203 X .38
X21	4.38	6.00	5.50	3.50	4.00	.203 X .38
X22	3.75	4.19	4.56	3.00	3.06	.203 X .38

"X" Mounting Drawing



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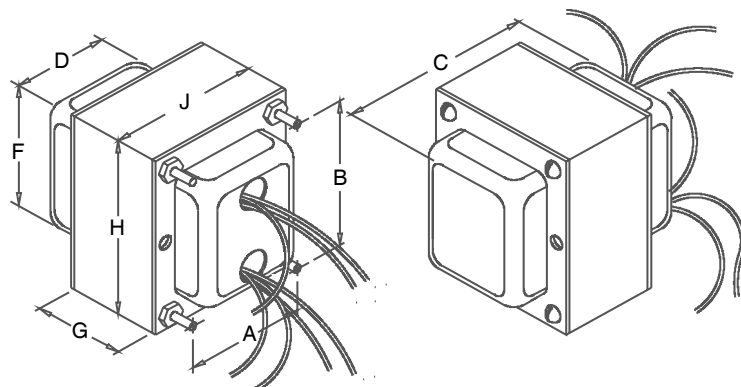
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"Classic" Plate & Filament - Universal Primary (300 Series)

Power

Part Number	Total Power (VA)	Secondary		Bias Tap (VAC)	Filament #1 (VAC)	Filament #2 (VAC)	Filament #3 (VAC)	Filament #4 (VAC)	Dimension Reference
		Voltage	D.C. Current (ma.)						
363AX	32	100-0-100	100	50	5V C.T. @ 2A	-	-	-	X6
369AX	40	125-0-125	100	50	6.3V C.T. @ 2A	-	-	-	X6
369BX	39	150-0-150	75	50	6.3V C.T. @ 2A	-	-	-	X6
363CX	119	180-0-180	250	50	5V C.T. @ 3A	-	-	-	X11
369EX	45	190-0-190	65	50	6.3V C.T. @ 2.5A	-	-	-	X6
370X	41	240-0-240	40	50	5V C.T. @ 2A	6.3V C.T. @ 1.5A	-	-	X6
370AX	44	240-0-240	50	50	6.3V C.T. @ 2.5A	-	-	-	X6
369GX	50	225-0-225	65	50	6.3V C.T. @ 2.5A	-	-	-	X6
369JX	50	250-0-250	60	50	6.3V C.T. @ 2.5A	-	-	-	X6
370CAX	66	250-0-250	70	50	5V C.T. @ 2A	6.3V C.T. @ 2.5A	-	-	X8
370DAX	76	260-0-260	90	50	6.3V C.T. @ 3.5A	-	-	-	X8
370DAZ	76	260-0-260	90	50	6.3V C.T. @ 3.5A	-	-	-	Z10
370BX	55	275-0-275	50	50	5V C.T. @ 2A	6.3V C.T. @ 2A	-	-	X7
370CX	59	275-0-275	65	50	6.3V C.T. @ 0.6A	6.3V C.T. @ 2.5A	-	-	X7
370DX	86	275-0-275	90	50	5V C.T. @ 2A	6.3V C.T. @ 3A	-	-	X8
370EX	119	275-0-275	125	50	5V C.T. @ 3A	6.3V C.T. @ 4A	-	-	X11
370FX	141	275-0-275	150	50	5V C.T. @ 3A	6.3V C.T. @ 5A	-	-	X20
370HX	180	275-0-275	200	50	5V C.T. @ 3A	6.3V C.T. @ 6A	-	-	X20
371X	63	280-0-280	60	50	5V C.T. @ 2A	6.3V C.T. @ 2A	-	-	X7
372BX	98	300-0-300	100	50	5V C.T. @ 2A	6.3V C.T. @ 3A	-	-	X10
372DX	127	300-0-300	125	50	5V C.T. @ 3A	6.3V C.T. @ 4A	-	-	X11
372FX	150	300-0-300	150	50	5V C.T. @ 3A	6.3V C.T. @ 5A	-	-	X20
302AX	198	300-0-300	200	50	2.5V C.T. @ 2.5A	5V C.T. @ 3A	6.3V C.T. @ 6A	2.5V C.T. @ 2.5A	X13
372HX	191	300-0-300	200	50	5V C.T. @ 3A	6.3V C.T. @ 6A	-	-	X13
372JX	243	300-0-300	250	50	5V C.T. @ 4A	6.3V C.T. @ 8A	-	-	X14
372X	75	310-0-310	70	50	5V C.T. @ 2A	6.3V C.T. @ 2.4A	-	-	X8
376X	157	320-0-320	150	50	5V C.T. @ 3A	6.3V C.T. @ 5A	-	-	X20
373AZ	49	325-0-325	40	50	5V C.T. @ 2A	6.3V C.T. @ 2A	-	-	Z11
373CZ	159	325-0-325	150	50	5V C.T. @ 3A	6.3V C.T. @ 5A	-	-	Z12
373DX	101	350-0-350	90	50	5V C.T. @ 2A	6.3V C.T. @ 3A	-	-	X10
373DZ	101	350-0-350	90	50	5V C.T. @ 2A	6.3V C.T. @ 3A	-	-	Z13
373X	125	350-0-350	110	50	5V C.T. @ 2A	6.3V C.T. @ 4A	-	-	X11
373BX	187	350-0-350	175	50	5V C.T. @ 3A	6.3V C.T. @ 5A	-	-	X13
374AX	136	360-0-360	120	50	5V C.T. @ 3A	6.3V C.T. @ 3.5A	-	-	X11
374X	141	375-0-375	110	50	5V C.T. @ 3A	6.3V C.T. @ 5A	-	-	X20
374BX	200	375-0-375	175	50	5V C.T. @ 3A	6.3V C.T. @ 6A	-	-	X13
375X	171	400-0-400	135	50	5V C.T. @ 3A	6.3V C.T. @ 5A	-	-	X20
378X	237	400-0-400	200	50	5V C.T. @ 3A	6.3V C.T. @ 6A	-	-	X22
300BX	280	400-0-400	250	50	5V C.T. @ 1.2A	5V C.T. @ 3A	6.3V C.T. @ 6A	-	X15
378CX	465	400-0-400	465	50	6.3V C.T. @ 6A	-	-	-	X21
379X	193	425-0-425	150	50	5V C.T. @ 3A	6.3V C.T. @ 5A	-	-	X22
382X	283	500-0-500	200	50	5V C.T. @ 3A	6.3V C.T. @ 6A	-	-	X15

"Z" Mounting - Drawing



"Z" Mounting - Dimension Table

Mtg. Style	Dimensions (Inches)							
	A	B	C	D	F	G	H	J
Z10	2.25	2.81	3.50	2.50	2.44	1.30	3.38	2.81
Z11	2.50	2.81	3.45	1.87	2.44	1.25	3.38	2.81
Z12	2.50	3.15	4.08	2.06	2.69	1.84	3.75	3.13
Z13	2.50	3.15	3.60	2.06	2.69	1.39	3.75	3.13

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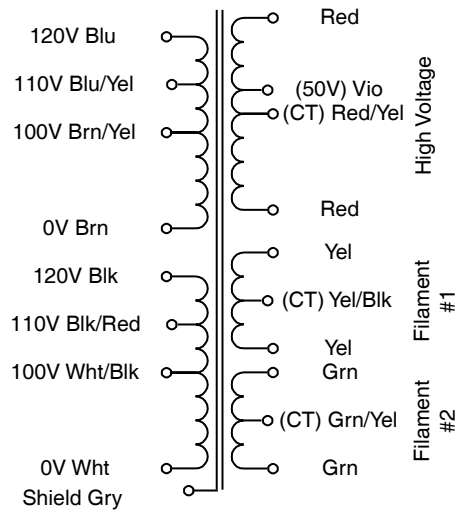
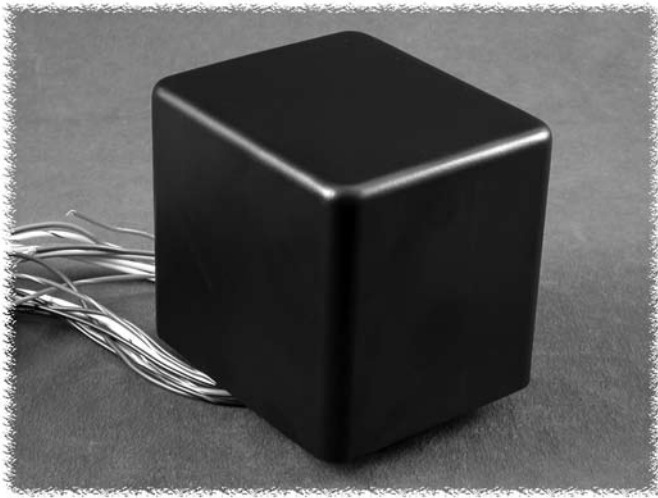
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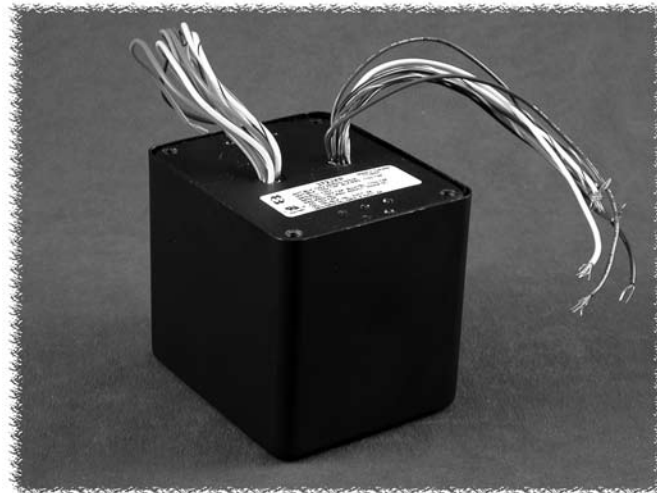
"Classic" Plate & Filament - Potted (300P Series)

Power



"CLASSIC" PLATE & FILAMENT - POTTED UNIVERSAL PRIMARY POWER TRANSFORMERS

- Enclosed in a drawn steel case, the transformer is completely potted in epoxy.
- Perfect match for our potted output transformers and potted chokes.
- Primary: Universal - 100, 110, 120, 200, 220, 240 VAC 50/60 Hz.
- Secondary: High voltage designed for full wave C.T. use. See chart (High voltage current is D.C. using C.T. Full Wave rectifier - capacitor input).
- Bias Tap: 50 VAC tap from high voltage secondary C.T.
- Highpot tested: 2,000 VAC
- C UL US recognized E207860
- Finish: Black powder paint to match our 1650P series of output transformers
- Windings: Concentric wound for low stray field and low noise
- For a more economical, open frame, universal primary - see our "300" series.



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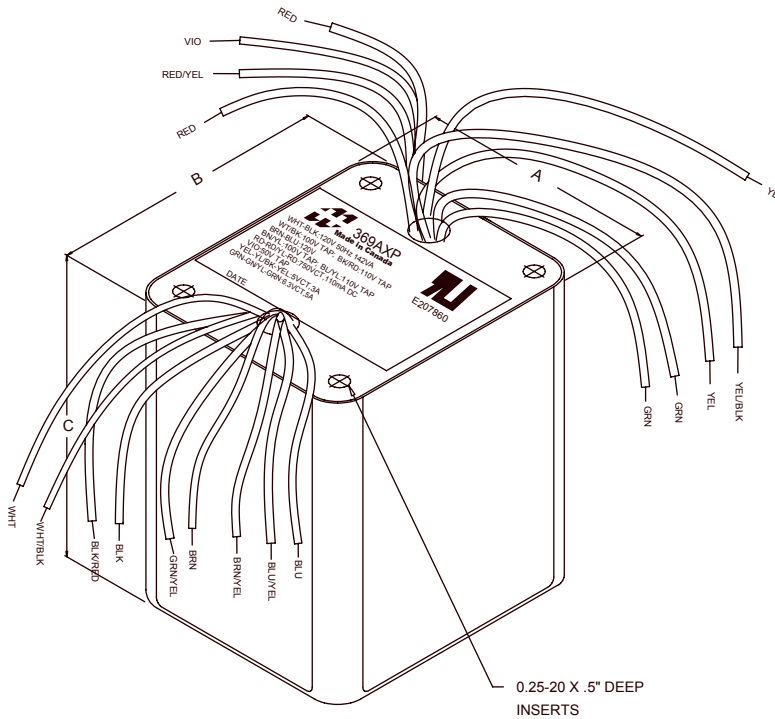
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"Classic" Plate & Filament - Potted (300P Series)

Power

Part Number	Total Power (VA)	Secondary		Bias Tap (VAC)	Filament #1 (VAC)	Filament #2 (VAC)	Mtg. Style
		Voltage	D.C. Current (ma.)				
369AXP	40	125-0-125	100	50	6.3V C.T. @ 2A	-	1
370XP	41	240-0-240	40	50	5V C.T. @ 2A	6.3V C.T. @ 1.5A	1
369GXP	50	225-0-225	65	50	6.3V C.T. @ 2.5A	-	1
369JXP	50	250-0-250	60	50	6.3V C.T. @ 2.5A	-	1
370CAXP	66	250-0-250	70	50	5V C.T. @ 2A	6.3V C.T. @ 2.5A	1
370DAXP	76	260-0-260	90	50	6.3V C.T. @ 3.5A	-	1
370DXP	86	275-0-275	90	50	5V C.T. @ 2A	6.3V C.T. @ 3A	1
370EXP	119	275-0-275	125	50	5V C.T. @ 3A	6.3V C.T. @ 4A	1
370FXP	141	275-0-275	150	50	5V C.T. @ 3A	6.3V C.T. @ 5A	2
370HXP	180	275-0-275	200	50	5V C.T. @ 3A	6.3V C.T. @ 6A	2
372FXP	150	300-0-300	150	50	5V C.T. @ 3A	6.3V C.T. @ 5A	2
372HXP	191	300-0-300	200	50	5V C.T. @ 3A	6.3V C.T. @ 6A	2
372JXP	243	300-0-300	250	50	5V C.T. @ 4A	6.3V C.T. @ 8A	2
372XP	75	310-0-310	70	50	5V C.T. @ 2A	6.3V C.T. @ 2.4A	1
376XP	157	320-0-320	150	50	5V C.T. @ 3A	6.3V C.T. @ 5A	2
373XP	125	350-0-350	110	50	5V C.T. @ 2A	6.3V C.T. @ 4A	1
374AXP	136	360-0-360	120	50	5V C.T. @ 3A	6.3V C.T. @ 3.5A	1
374XP	141	375-0-375	110	50	5V C.T. @ 3A	6.3V C.T. @ 5A	2
374BXP	200	375-0-375	175	50	5V C.T. @ 3A	6.3V C.T. @ 6A	2
375XP	171	400-0-400	135	50	5V C.T. @ 3A	6.3V C.T. @ 5A	2



Mtg. Style	Dimensions (Inches)			Mounting - Threaded Insert
	A	B	C	
1	3.31	3.88	4.25	1/4 - 20
2	4.25	5.00	5.44	1/4 - 20

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"Classic" Plate (700 Series)

Power



"CLASSIC" ENCLOSED PLATE TRANSFORMERS

- Primary 115 VAC, 50/60 Hz.
- At 1,000 VAC and above, secondary leads are through rubber bushings (figure B).
- Units can be run full wave bridge or full wave C.T.
- Enclosed, 4 hole chassis mount.
- Minimum 6" long leads.
- Class A insulation (105 degrees C).
- Hi-Pot test at a minimum of twice secondary voltage
- Conservative designs - CSA certified (# LR3902).

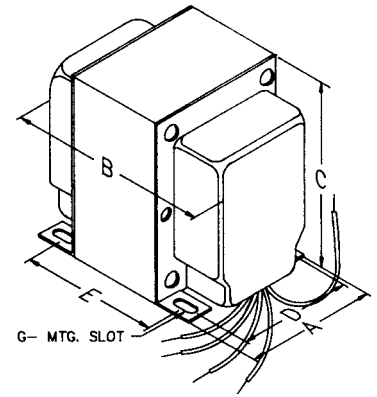


Fig. A

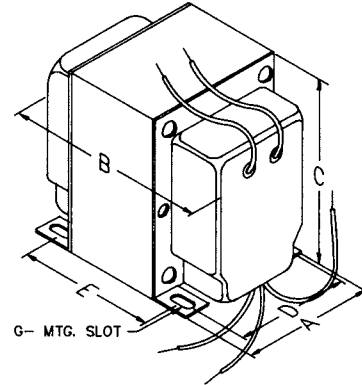
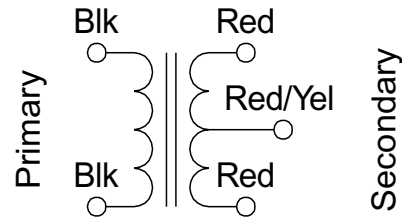


Fig. B

Transformer Schematic



Part No.	VA	Secondary R.M.S.	After F.W.C.T. Rectification (Choke Input)			Dwg. Type	Dimensions (Inches)					Wt. Lb.
			DC Volts Choke Input	DC ma. CCS	DC ma. ICAS		A	B	C	D	E	
710	110	375-0-375	300	300	450	A	3.75	4.13	4.50	3.00	2.25	7.2
712	130	425-0-425	350	300	450	A	3.75	4.63	4.50	3.00	2.75	8.8
714	180	510-0-510	400	170	250	A	3.13	3.75	3.75	2.50	2.38	5.5
715	200	510-0-510	400	300	450	A	3.75	4.63	4.50	3.00	2.75	9.0
717	510	510-0-510	400	500	750	A	5.00	5.25	6.50	4.56	3.25	17.7
718	235	625-0-625	500	200	300	A	3.75	4.38	4.50	3.00	2.50	8.0
720	370	625-0-625	500	300	450	A	3.75	5.38	4.50	3.00	3.50	12.0
722	625	625-0-625	500	500	750	A	5.00	5.25	6.50	4.56	3.25	17.7
724	345	750-0-750	625	200	300	A	3.75	5.25	4.50	3.00	3.38	12.0
726	312	890-0-890	750	175	260	A	3.75	5.25	4.50	3.00	3.38	12.0
728	210	1000-0-1000	850	150	225	B	3.75	5.25	4.50	3.00	3.38	12.0
732	500	1250-0-1250	1000	200	300	B	5.00	5.25	6.50	4.56	3.25	17.7
733	750	1250-0-1250	1000	300	450	B	5.00	6.00	6.50	4.56	4.00	24.0
735	735	1500-0-1500	1250	250	375	B	5.00	6.00	6.50	4.56	4.00	24.0
737	1200	1500-0-1500	1250	400	600	B	5.00	7.00	6.50	4.56	5.00	28.5
739	1400	1750-0-1750	1500	400	600	B	5.00	7.63	6.50	4.56	5.50	34.7

Notes : CCS = Continuous Commercial Service
 ICAS = Intermittent Commercial or Amateur Service



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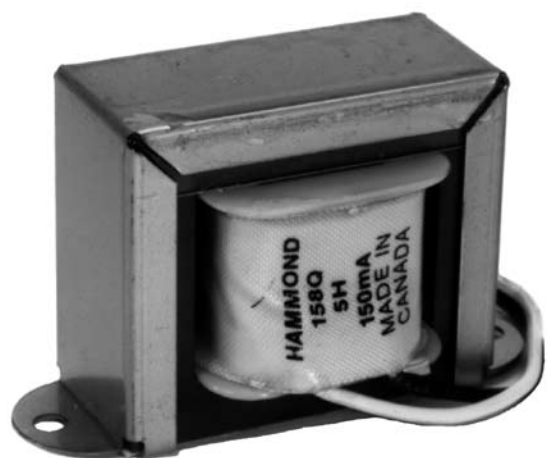


Chokes



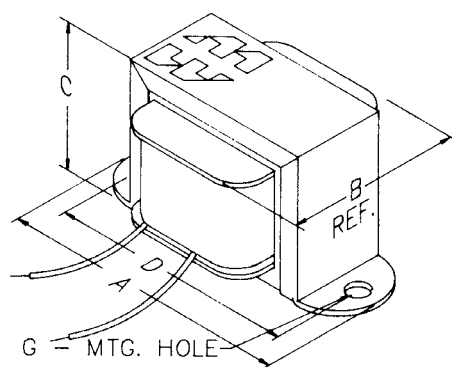
D.C. Filter (153-159 Series)

Chokes



OPEN BRACKET D.C. FILTER CHOKES

- Economical "open bracket" - channel mount.
- Tolerance of 15% on both inductance & resistance.
- Inductances measured at rated D.C. current.
- Minimum 5" long leads.
- Units will exhibit less inductance at slightly higher currents or more at lower currents.
- Perfect for high voltage power supply filtering.



Part No.	Inductance Henrys	D.C. Current (ma.)	Resistance (Ohms)	Max. Oper. Volts (D.C.)	Wt. Lbs.	Dim. Ref.
153E	7	25	770	300	.10	C1H
153H	2.2	50	305	300	.10	C1H
153L	0.9	75	125	300	.10	C1H
153M	0.6	100	86	300	.10	C1H
154E	20	20	1666	300	.25	C2H
154G	9	40	700	300	.25	C2H
154H	4	50	300	300	.25	C2H
154M	2	100	175	300	.25	C2H
155C	60	8	2750	400	.30	C4H
155G	7	40	340	400	.30	C4H
155H	5	50	270	400	.30	C4H
155J	15	30	1026	400	.30	C4H
156C	150	8	3700	400	.50	C6H
156G	9	40	300	400	.50	C6H
156L	5	75	135	400	.50	C6H
156M	3	100	86	400	.50	C6H
156R	1.5	200	56	400	.50	C6H
157G	30	40	595	400	1.0	C9H
157J	10	65	205	400	1.0	C9H
157L	14	75	429	400	1.0	C9H
157M	8	100	259	400	1.0	C9H
157Q	3.5	150	98	400	1.0	C9H
157R	2	200	57	400	1.0	C9H
158L	15	75	411	400	1.25	C10H
158M	10	100	262	400	1.25	C10H
158Q	5	150	105	400	1.25	C10H
158S	1.5	250	60	400	1.50	C10H
158T	1	300	40	400	1.50	C10H
159M	15	100	256	500	2.25	C14H
159P	10	125	155	500	2.25	C14H
159Q	7	150	100	500	2.25	C14H
159S	4	225	65	500	2.25	C14H
159T	2.5	300	43	500	2.25	C14H
159V	1.5	500	27	500	2.25	C14H
159Y	0.6	750	11	500	2.25	C14H
154B	3mH	1.5A	0.14	300	.25	C2H
155B	6mH	2A	0.3	400	.30	C4H
156B	1.5mH	5A	0.07	400	.50	C6H
157D	1mH	10A	0.038	400	1.0	C9H
159ZA	300mH	1A	6.0	500	2.50	C14H
159ZC	60mH	2A	0.7	500	2.50	C14H
159ZE	28mH	3A	0.43	500	2.75	C14H
159ZG	15mH	4A	0.25	500	2.75	C14H
159ZJ	10mH	5A	0.16	500	2.75	C14H
159ZL	2.5mH	10A	0.044	500	2.75	C14H

Dimension Table

Mtg. Style	Dimensions (Inches)				
	A	B	C	D	Mtg. Hole
C1H	1.63	0.88	0.81	1.38	0.125
C2H	2.06	1.25	1.19	1.75	0.187
C4H	2.38	1.38	1.38	2.00	0.187
C6H	2.81	1.50	1.69	2.38	0.187
C9H	3.25	1.75	2.00	2.81	0.187
C10H	3.25	2.00	2.00	2.81	0.187
C14H	4.03	2.25	2.63	3.56	0.187



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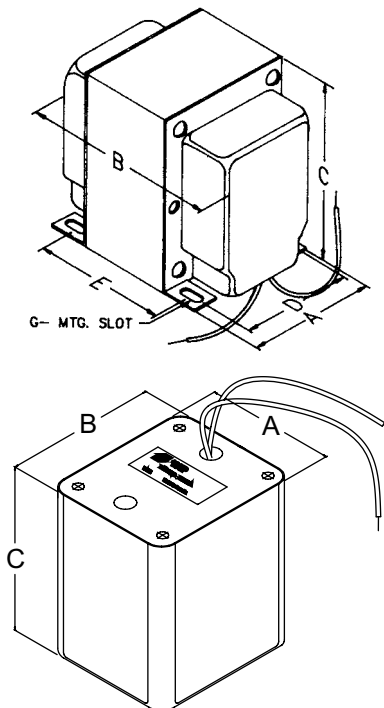
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Enclosed & Potted D.C. Filter (193 Series)



Potted



Enclosed

Chokes

ENCLOSED & POTTED D.C. FILTER CHOKES

- Enclosed, 4-hole chassis mount chokes (some models also available epoxy potted in a black powder paint - drawn steel cabinet - see chart). Potted models mount with 1/4" - 20 hardware (included).
- Tolerance of 15% on both inductance & resistance. Inductances measured at rated D.C. current.
- Minimum 8" long leads.
- Units will exhibit less inductance at slightly higher currents or more at lower currents.
- Perfect for high voltage power supply filtering, case matches power transformers & tube audio output transformers.

Part No.	Style	Inductance (Henrys)	Current (D.C. ma.)	Resistance (Ohms)	Max. Operating (Volts D.C.)	Wt. Lbs.	Dim. Ref.
193B	Enclosed	12	100	155	600	2.5	X6
193C	Enclosed	20	100	181	600	3.25	X8
193CP	Potted	20	100	184	800	5.0	P1
193D	Enclosed	8	150	75	600	3.25	X8
193G	Enclosed	10	150	102	800	4.25	X17
193GP	Potted	10	150	103	800	6.0	P1
193H	Enclosed	5	200	65	600	2.5	X6
193J	Enclosed	10	200	82	800	5.5	X11
193JP	Potted	10	200	79	800	7.5	P1
193K	Enclosed	2.6	300	21	800	3.25	X8
193L	Enclosed	5	300	57	800	5.5	X11
193LP	Potted	5	300	55	800	7.5	P1
193M	Enclosed	10	300	63	800	10.5	X14
193MP	Potted	10	300	63	800	10.5	P1
193N	Enclosed	3	500	35	600	5.0	X11
193NP	Potted	3	500	36	800	7.0	P1
193P	Enclosed	5	500	26	800	10.75	X14
193Q	Enclosed	10	500	53	1000	21.0	X16
193R	Enclosed	0.3	1000	3.50	1000	4.5	X10
193S	Enclosed	1	1000	5.75	1000	8.0	X13
193T	Enclosed	0.05	2000	0.7	300	2.5	X6
193U	Enclosed	0.2	2000	1.7	300	6.0	X12
193V	Enclosed	0.15	3000	1.0	300	9.0	X14

Dimension Table

Mtg. Style	Dimensions (Inches)					G-Mtg. Slot
	A	B	C	D	E	
P1	3.31	3.88	4.25	-	-	-
X6	2.50	2.75	3.06	2.00	1.69	.203 X .38
X8	2.50	3.25	3.06	2.00	2.19	.203 X .38
X10	3.13	3.50	3.81	2.50	2.19	.203 X .38
X11	3.13	3.75	3.81	2.50	2.44	.203 X .38
X12	3.13	4.25	3.81	2.50	2.94	.203 X .38
X13	3.75	4.00	4.56	3.00	2.81	.203 X .38
X14	3.75	4.50	4.56	3.00	3.31	.203 X .38
X16	3.75	5.50	4.56	3.00	4.31	.203 X .38
X17	3.13	3.25	3.81	2.50	1.94	.203 X .38

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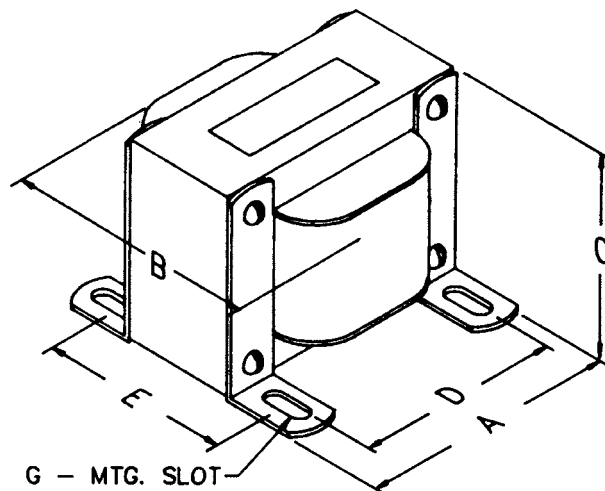
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D.C. Reactors (195 Series)

Chokes



HEAVY CURRENT REACTORS

- Open core & coil, 4-slot bracket mounting chokes.
- Tolerance of 15% on both inductance & resistance.
- Inductances measured at rated D.C. current.
- Connections are made to a screw terminal or heavy copper tabs with holes
- Perfect for high current power supply filtering.

Part No.	Inductance (Millihenries)	D.C. Current (Amps)	Resistance (Ohms)	Insulation Class	Dimensions (Inches)						Wt. Lbs.
					A	B	C	D	E	Mtg. - Slot (G)	
195B150	0.5	150	.0018	B	5.25	5.50	4.47	4.38	4.13	.28 x .56	26
195C20	1.0	20	.013	A	3.00	3.06	2.50	2.50	2.25	.20 x .38	3
195C30	1.0	30	.009	A	3.75	3.85	3.13	3.13	2.50	.20 x .38	6
195C50	1.0	50	.005	A	4.50	5.25	3.75	3.75	3.50	.20 x .38	14.5
195C75	1.0	75	.004	A	5.25	6.00	4.47	4.38	4.63	.28 x .56	23
195C100	1.0	100	.0036	B	5.25	6.50	4.47	4.38	5.13	.28 x .56	26
195E20	2.5	20	.022	A	3.75	4.20	3.13	3.13	2.75	.20 x .38	6.5
195E30	2.5	30	.013	A	4.50	5.25	3.75	3.75	3.50	.20 x .38	12.5
195E50	2.5	50	.008	A	5.25	6.00	4.47	4.38	4.63	.28 x .56	23.5
195E75	2.5	75	.008	B	6.00	6.63	5.16	5.00	4.88	.28 x .56	32.5
195E100	2.5	100	.006	B	9.00	9.75	7.50	7.00	6.00	.44 x .75	88
195G10	5	10	.040	A	3.75	3.60	3.13	3.13	2.25	.20 x .38	5.5
195G20	5	20	.025	A	4.50	4.75	3.75	3.75	3.00	.20 x .38	10.5
195G30	5	30	.023	A	5.25	5.00	4.47	4.38	3.63	.28 x .56	16
195G50	5	50	.021	B	7.50	6.50	6.25	6.00	4.50	.38 x .63	38
195G75	5	75	.01	B	9.00	9.50	7.76	7.00	7.00	.44 x .75	87
195J10	10	10	.07	A	3.75	4.35	3.13	3.13	3.00	.20 x .38	8
195J20	10	20	.045	A	5.25	5.00	4.47	4.38	3.63	.28 x .56	17.5
195J30	10	30	.037	A	6.00	7.50	5.00	5.00	5.88	.31 x .50	36
195J50	10	50	.023	B	9.00	9.75	7.50	7.00	6.25	.44 x .75	79
195M10	20	10	.013	A	4.50	4.75	3.75	3.75	3.00	.20 x .38	10.2
195M20	20	20	.075	A	6.00	7.50	5.00	5.00	5.88	.31 x .50	34
195M30	20	30	.045	B	6.00	7.63	5.16	5.00	5.88	.28 x .56	41
195P5	30	5	.23	A	3.75	4.20	3.13	3.13	2.75	.20 x .38	6.5
195P10	30	10	.17	A	4.50	5.25	3.75	3.75	3.50	.20 x .38	16
195P20	30	20	.13	B	5.25	6.91	4.47	4.38	5.54	.28 x .56	28
195R10	50	10	.165	A	5.25	5.50	4.47	4.38	4.13	.28 x .56	26
195R20	50	20	.13	B	9.00	8.25	7.50	7.00	5.75	.44 x .75	72
195T5	100	5	.64	A	4.50	5.25	3.75	3.75	3.50	.20 x .38	14
195T10	100	10	.42	B	7.50	6.00	6.25	6.00	4.25	.38 x .63	35



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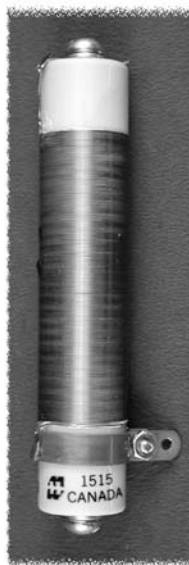
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1502



1508



1515



1518



1521

Chokes

R.F. CHOKES

- Low loss ceramic or powdered iron forms
- Tolerance +/- 10% on inductance
- Catalog numbers 1515, 1518, 1521 designed for heavy duty use in linear amplifiers or other transmitter applications.
- Wound on 1" dia. ceramic forms with standoff insulators and 1/4-20 mounting bolt.

Part No.	D.C. mA	Induct. (mH)	D.C. Res. (ohms)	No. of Pies	Form Type	Length (Inches)	Wt. Oz.
1502	500	0.007	1.3	Layer	Ceramic	1.5	0.25
1508	500	0.035	3.1	Layer	Ceramic	3	1.3
1515	500	0.25	3.0	Layer	Ceramic	4	8
1518	750	0.1	1.2	Layer	Ceramic	4	8
1521	1000	0.09	0.68	Layer	Ceramic	4	8

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R.F. CHOKES (1530 Series)



Chokes

SUB-MINIATURE R.F. CHOKES

- Subminiature design ranging from only .25" to .63"
- Coils are varnish impregnated.
- Ideally suited to network, filter, delay lines etc., applications.
- L and Q values measured on a Q meter.

Part No.	Inductance L uH	Induct. Tolerance	Q Min.	Test Freq. Mhz.	Fo Min. Mhz	R- D.C. Max. Ohms	I - D.C. Max. ma.	Coil Dia. Max.	Form Length +/- .03"	Core Material
1530B106	1	+/-20%	41	25	118	0.048	2041	0.165	0.25	Iron
1530B126	1.2	+/-10%	45	7.9	118	0.072	1666	0.16	0.25	Iron
1530B156	1.5	+/-10%	42	7.9	102	0.096	1443	0.16	0.25	Iron
1530B276	2.7	+/-10%	34	7.9	74	0.168	1091	0.16	0.25	Iron
1530B336	3.3	+/-10%	40	7.9	66	0.24	912	0.15	0.25	Iron
1530B396	3.9	+/-10%	35	7.9	61	0.264	870	0.15	0.25	Iron
1530B476	4.7	+/-10%	43	7.9	53	0.457	661	0.15	0.25	Iron
1530B566	5.6	+/-10%	41	7.9	49	0.492	637	0.15	0.25	Iron
1530B686	6.8	+/-10%	40	7.9	49	0.624	566	0.15	0.25	Iron
1530B105	10	+/-10%	36	7.9	19	1.56	277	0.16	0.25	Iron
1530B155	15	+/-10%	52	2.5	16	1.92	250	0.165	0.25	Iron
1530B225	22	+/-5%	51	2.5	13	2.28	229	0.165	0.25	Iron
1530B335	33	+/-5%	50	2.5	10	2.76	208	0.17	0.25	Iron
1530B395	39	+/-5%	48	2.5	9.3	3.36	188	0.175	0.25	Iron
1530B475	47	+/-5%	44	2.5	9.1	3.36	188	0.175	0.25	Iron
1530B565	56	+/-5%	45	2.5	8.6	3.84	176	0.18	0.25	Iron
1530B685	68	+/-5%	42	2.5	8.1	4.2	169	0.18	0.25	Iron
1530B825	82	+/-5%	41	2.5	6.7	4.8	158	0.185	0.25	Iron
1530B104	100	+/-5%	25	2.5	3.6	7.68	139	0.165	0.25	Iron
1530B154	150	+/-5%	47	0.79	3	8.16	135	0.165	0.25	Iron
1530B224	220	+/-5%	46	0.79	2.5	11.5	114	0.17	0.25	Iron
1530B334	330	+/-5%	41	0.79	2	13.9	103	0.175	0.25	Iron
1530B474	470	+/-5%	35	0.79	1.8	16.3	95	0.185	0.25	Iron
1530B684	680	+/-5%	37	0.79	1.6	19.8	87	0.2	0.25	Iron
1530B824	820	+/-5%	33	0.79	1.6	22.9	80	0.21	0.25	Iron
1530B103	1,000	+/-5%	30	0.79	1.4	24	79	0.225	0.25	Iron
1530B153	1,500	+/-5%	40	0.25	1.1	37.2	63	0.225	0.25	Iron
1530B223	2,200	+/-5%	40	0.25	0.96	45.6	57	0.24	0.25	Iron
1530C253	2,500	+/-5%	48	0.25	0.96	45.6	57	0.26	0.38	Iron
1530C333	3,300	+/-5%	52	0.25	0.8	51.6	53	0.26	0.38	Iron
1530C473	4,700	+/-5%	49	0.25	0.68	64.8	48	0.285	0.38	Iron
1530C683	6,800	+/-5%	51	0.25	0.64	78	43	0.31	0.38	Iron
1530C823	8,200	+/-5%	48	0.25	0.6	92.4	40	0.33	0.38	Iron
1530C102	10,000	+/-5%	41	0.25	0.52	101	38	0.335	0.38	Iron
1530C182	18,000	+/-5%	49	0.079	0.29	128	44	0.325	0.5	Iron
1530D252	25,000	+/-5%	59	0.079	0.25	115	46	0.34	0.63	Ferrite
1530D332	33,000	+/-5%	61	0.079	0.232	134	43	0.353	0.63	Ferrite
1530D101	100,000	+/-5%	48	0.079	0.157	278	29	0.446	0.63	Ferrite



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R.F. CHOKES (1531-1536 Series)



Single Layer Coil Type



3-Pi Coil Type

R.F. CHOKES

- All models impregnated with a moisture and fungus resistant varnish.
- Lead length of 1.5" (+/- 0.13")
- Wound for low distributed capacity by using solenoid (single coil) or 3-Pi windings
- All single coil versions include vinyl insulation covering

Chokes

Part No	Inductance L	L Tolerance	Q Min.	Test Freq.	Self Resonant Min. Freq. MHz	Max D.C. Resist. Ohms	Max D.C. Current ma.	Coil Dia. In.	Core Material	Core Length In.	Coil Type
1531L	2.4 uH	10%	56	7.9 MHz	120	0.19	1500	0.27	Phenolic	0.75	Single
1531R	10 uH	10%	36	7.9 MHz	61	1.5	500	0.27	Phenolic	0.75	Single
1532A	10 uH	5%	69	2.5 MHz	40	0.11	1500	0.29	Iron	0.875	Single
1532B	15 uH	5%	62	2.5 MHz	33	0.17	1000	0.29	Iron	0.875	Single
1532C	24 uH	5%	65	2.5 MHz	25	0.34	800	0.29	Iron	0.875	Single
1532D	39 uH	5%	70	2.5 MHz	0.2	0.65	600	0.29	Iron	0.875	Single
1532E	55 uH	5%	72	2.5 MHz	17	1	500	0.29	Iron	0.875	Single
1532H	100 uH	5%	107	0.79 MHz	12	3	400	0.29	Iron	0.875	Single
1533H	1 mH	5%	59	250 KHz	3.7	19	160	0.563	Phenolic	0.75	3-Pi
1534A	1 mH	5%	83	250 KHz	2.6	8.6	160	0.469	Iron	0.875	3-Pi
1534C	2.4 mH	5%	80	250 KHz	1.7	15	160	0.531	Iron	0.875	3-Pi
1535B	2.5 mH	5%	106	250 KHz	1.3	9	160	0.469	Ferrite	0.875	3-Pi
1535D	5 mH	5%	91	250 KHz	1	14	160	0.531	Ferrite	0.875	3-Pi
1535G	10 mH	5%	108	79 KHz	0.71	31	100	0.531	Ferrite	0.875	3-Pi
1535J	25 mH	5%	102	79 KHz	0.47	82	65	0.531	Ferrite	0.875	3-Pi
1535L	50 mH	5%	113	79 KHz	0.33	127	65	0.625	Ferrite	0.875	3-Pi



HEAVY DUTY HASH CHOKES

- Molded powdered iron core
- 1.25" long leads (+/- 0.1")
- High inductance & high current
- L measured at 7.9 Mhz. on 1536D, E and F all others at 1 Khz.
- All chokes include vinyl insulation covering.

Part No.	Inductance +/- 20% uH	D.C. Resistance Ohms	Self Resonant Freq. MHz.	Max D.C. Current Amps	Coil Dia. In.	Core Length In.
1536D	3.35	0.010	45	20	0.53	1.31
1536E	4.90	0.016	42	15	0.50	1.25
1536F	8.80	0.021	28	10	0.50	1.25
1536L	4	0.012	24.30	8	0.31	0.91
1536P	40	0.082	10.4	3	0.31	1.25
1536S	68	0.054	5.70	5	0.53	1.25
1536T	100	0.216	4.10	2	0.31	1.25
1536TA *	100	0.55	-	1	0.80	1.10
1536W	125	0.08	2.65	3.5	0.50	1.25
1536X	250	0.17	1.50	2.5	0.43	1.25
1536Y	500	0.26	1.17	2	0.56	1.25
1536Z	1000	0.55	-	1	0.50	1.03

* Dual choke - all electrical values are for both sections

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R.F. CHOKES (1537-1538 Series)

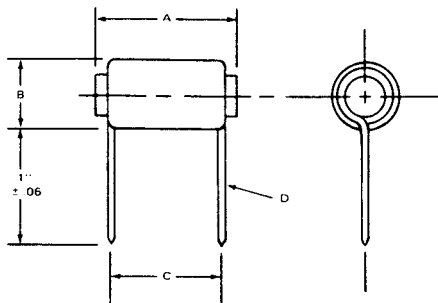
HIGH CURRENT CHOKES

- Large ferrite core for extended saturation point, optimum frequency range .01-2 Mhz.
- 1.5" long leads (+/- 0.1")
- Test frequency 1 Khz.
- Core length 1.25". Coil is covered with vinyl shrink sleeve.

Chokes



Part No.	Inductance +/- 5% uH	Min. Q	D.C. Resistance Ohms	Max. D.C. Current Amps	Coil Dia. In.	Lead Dia. Gauge
1537E	10	4.5	0.006	20	0.63	14
1537F	20	6.5	0.013	12.5	0.60	16
1537G	30	5.3	0.024	8	0.58	18
1537H	40	5.2	0.039	5	0.57	20
1537J	50	3.4	0.064	3.2	0.56	20
1537K	75	3.2	0.128	2	0.54	20
1537L	100	10.5	0.05	8	0.71	18
1537M	250	12.0	0.114	5	0.69	18
1537N	500	11.6	0.26	3.2	0.65	20
1537P	750	10.0	0.465	2	0.61	20
1537R	1000	7.4	0.83	1.25	0.59	20



EMI/RFI CHOKES

- High saturation flux density ferrite rods.
- 1" long leads, tinned to within 1/8" of body.
- Ideal for filtering or energy storage inductors.
- Inductance measured at @ 1Khz. with 0 amps. D.C. current, typical inductance change is less than 5% @ twice rated current.



Part No.	Inductance L uH +/- 10%	Fo Min. MHz	R - D.C. Max. Ohms	I - D.C. Max. Amps	Max. Dim. A	Max. Dim. B	Typ. Dim. C	Typ. Dim. D
1538M01	5	32.4	0.013	10	0.88	0.63	0.50	0.042
1538M02	10	21.6	0.017	9	1.12	0.63	0.69	0.042
1538M03	27	5.6	0.03	7	0.88	0.81	0.44	0.042
1538M04	50	3.44	0.04	5.6	0.88	0.81	0.75	0.042
1538M05	100	2.08	0.061	4.9	1.12	0.81	0.94	0.042
1538M06	150	1.84	0.069	4.6	1.38	0.81	1.06	0.042
1538M07	250	1.1	0.089	4	1.62	0.81	1.31	0.042
1538M08	5	27.2	0.009	14	0.88	0.64	0.75	0.053
1538M09	10	21.7	0.012	12	1.12	0.64	1.00	0.053
1538M10	27	5.6	0.022	9	0.88	0.88	0.56	0.053
1538M11	50	4.4	0.028	8	1.12	0.88	0.75	0.053
1538M12	68	3.6	0.034	7.3	1.12	0.88	0.88	0.053
1538M13	100	2.4	0.038	6.8	1.38	0.88	1.00	0.053
1538M14	150	1.6	0.046	6.3	1.62	0.88	1.25	0.053
1538M15	5	34.7	0.006	19	1.12	0.69	0.81	0.065
1538M16	10	20	0.008	16	1.38	0.94	1.22	0.065
1538M17	27	6.2	0.014	12.5	1.12	0.94	0.69	0.065
1538M18	50	3.8	0.02	10.5	1.38	0.94	0.94	0.065
1538M19	68	3.2	0.023	10	1.38	0.94	1.12	0.065
1538M20	100	2.2	0.027	10	1.62	0.94	1.31	0.065
1538M21	5	30.8	0.004	23	1.38	0.72	0.94	0.082
1538M22	10	20	0.006	20	1.69	0.72	1.50	0.082
1538M23	27	6.4	0.010	15	1.38	1.00	0.94	0.082
1538M24	50	3.5	0.013	15	1.62	1.00	1.12	0.082



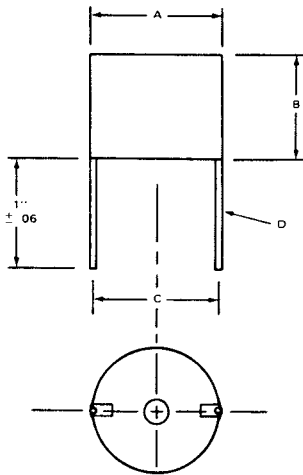
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Chokes

EMI/RFI CHOKES

- High saturation flux density ferrite bobbins.
- 1" long leads, tinned to within 1/8" of body.
- Ideal for filtering or energy storage inductors.
- Inductance measured at @ 1Khz. with 0 amps. D.C. current, typical inductance change is less than 5% @ twice rated current.

Part No.	Inductance L uH +/- 10%	Fo Min. MHz	R - D.C. Max. Ohms	I - D.C. Max. Amps	Max. Dim. A	Max. Dim. B	Typ. Dim. C	Typ. Dim. D
1539M01	5	24.7	0.007	15	0.83	0.91	0.59	0.065
1539M02	10	11.4	0.008	14	0.83	0.91	0.60	0.065
1539M03	25	6.2	0.023	8	0.83	0.91	0.57	0.042
1539M04	50	4.1	0.034	6.6	0.83	0.91	0.65	0.042
1539M05	100	2.4	0.072	4.5	0.83	0.91	0.69	0.042
1539M06	250	1.6	0.173	2.9	0.83	0.91	0.65	0.042
1539M07	500	1	0.378	2	0.83	0.91	0.68	0.042
1539M08	1000	0.7	0.801	1.3	0.83	0.91	0.66	0.042
1539M09	2500	0.43	2.04	0.85	0.83	0.91	0.71	0.042
1539M10	5	26.7	0.005	20	1.22	1.11	0.94	0.082
1539M11	10	15.6	0.006	17	1.22	1.11	0.95	0.082
1539M12	25	5.2	0.009	14	1.22	1.11	0.93	0.082
1539M13	50	3.6	0.017	10	1.22	1.11	0.99	0.065
1539M14	100	2.2	0.034	7	1.22	1.11	0.85	0.053
1539M15	250	1.2	0.083	4.6	1.22	1.11	0.97	0.053
1539M16	500	0.89	0.129	3.7	1.22	1.11	1.12	0.053
1539M17	1000	0.58	0.279	2.5	1.22	1.11	1.05	0.053
1539M18	2500	0.35	0.69	1.6	1.22	1.11	1.05	0.053
1539M19	50	3.4	0.012	14	1.50	1.11	1.23	0.082
1539M20	100	2	0.025	9.8	1.50	1.11	1.12	0.065
1539M21	250	1.3	0.059	6.4	1.50	1.11	1.10	0.053
1539M22	500	0.9	0.09	5	1.50	1.11	1.14	0.053
1539M23	1000	0.54	0.195	3.5	1.50	1.11	1.36	0.053
1539M24	2500	0.34	0.499	2.2	1.50	1.11	1.32	0.053
1539M25	5000	0.24	1.08	1.5	1.50	1.11	1.27	0.053
1539M26	100	1.8	0.018	14	1.50	1.50	1.18	0.082
1539M27	250	1	0.040	9	1.50	1.50	1.12	0.065
1539M28	500	0.7	0.085	6.5	1.50	1.50	1.06	0.053
1539M29	1000	0.44	0.183	4.4	1.50	1.50	1.23	0.053
1539M30	2500	0.26	0.464	2.8	1.50	1.50	1.21	0.053
1539M31	5000	0.19	0.714	2.2	1.50	1.50	1.32	0.053
1539M32	10000	0.13	1.55	1.5	1.50	1.50	1.25	0.053

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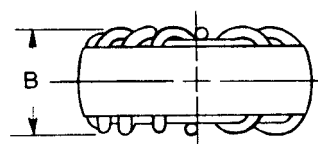
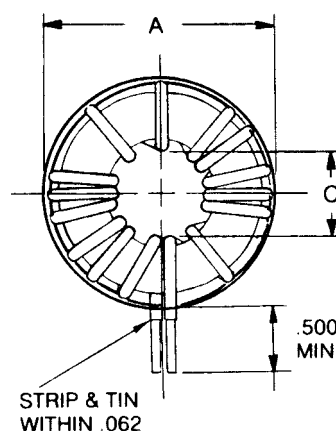
EMI / RFI Toroid (1540 Series)

Chokes



HIGH CURRENT TOROID INDUCTORS

- Ideal for EMI/RFI filtering applications
- Suitable for energy storage inductors for switching power supplies.
- High current
- Minimum .5" long leads, for P.C. board mounting.



Selection Table

Part No.	Inductance Ls +/- 15% @ 0A D.C. uH	Rated D.C. Amps	Minimum Inductance at rated D.C. uH	D.C. Resistance max. Ohms	D.C. Amps for 0.8 Ls	Dimensions			Typ. Lead Dia. (In.)
						A Max. (Inches)	B Max. (Inches)	C Min. (Inches)	
1540M01	10	11	5	0.008	7.5	0.875	0.437	0.187	0.064
1540M02	25	5.5	12	0.014	3.25	0.875	0.437	0.187	0.040
1540M03	125	2.75	70	0.12	1.5	0.875	0.437	0.187	0.020
1540M04	275	2	150	0.24	1.3	0.875	0.437	0.187	0.016
1540M05	450	1.5	250	0.49	0.8	0.875	0.437	0.187	0.012
1540M06	25	9	15	0.012	5.5	1.125	0.562	0.312	0.064
1540M07	75	5	40	0.04	3	1.125	0.562	0.312	0.036
1540M08	400	2.25	225	0.33	1.4	1.125	0.562	0.312	0.018
1540M09	800	1.75	475	0.64	1	1.125	0.562	0.312	0.015
1540M10	1000	1.5	575	0.98	0.9	1.125	0.562	0.312	0.012
1540M11	50	9.5	25	0.012	6	1.25	0.625	0.375	0.064
1540M12	150	4.75	85	0.046	2.5	1.25	0.625	0.375	0.036
1540M13	700	2.25	400	0.42	1.25	1.25	0.625	0.375	0.018
1540M14	1250	1.75	750	0.85	1	1.25	0.625	0.375	0.015
1540M15	1600	1.5	950	1.27	0.8	1.25	0.625	0.375	0.012
1540M16	125	7.75	65	0.032	5.25	1.812	0.750	0.750	0.064
1540M17	500	4	275	0.15	2.75	1.812	0.750	0.750	0.032
1540M18	1100	2.5	650	0.33	1.8	1.812	0.750	0.750	0.025
1540M19	2250	1.75	1350	0.92	1.3	1.812	0.750	0.750	0.080
1540M20	4500	1.25	2700	2.64	0.9	1.812	0.750	0.750	0.012
1540M21	250	8	125	0.041	4.75	2.125	0.937	0.625	0.062
1540M22	900	3.75	500	0.175	2	2.125	0.937	0.625	0.032
1540M23	1800	2.5	1000	0.55	1.4	2.125	0.937	0.625	0.023
1540M24	4000	1.75	2100	1.16	1.1	2.125	0.937	0.625	0.018
1540M25	8000	1	4500	3.34	0.7	2.125	0.937	0.625	0.012



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Line



Line Transformer - Selection Guide

Steps To Proper Transformer Selection

1. What power is available (you need to know both voltage & frequency)?
2. Check the operating voltage of your equipment (is it single voltage or multiple?).
3. What line frequency will your equipment run on? Either 50, 60 or dual 50/60 Hz. (remember, a transformer can NOT change line frequency).
4. Use the chart below to determine your requirements:

Power Available		Your Equipment		Transformer Type Required (You may also need plug adaptors)
Voltage	Frequency	Voltage	Frequency	
115	60	100	50/60	Step Down
115	50	115	50	None Required - or - Straight Isolation
115	50	115	60	Will Not Work
115	50	115/230	50/60	None Required - or - Straight Isolation
115	60	115	60	None Required - or - Straight Isolation
115	60	230	50	Will Not Work
115	60	230	60	Step Up
115	60	115/230	50/60	None Required - or - Straight Isolation
230	50	115	50	Step Down
230	50	115	60	Will Not Work
230	50	115/230	50/60	None Required - or - Straight Isolation
230	60	115	60	Step Down
230	60	230	50	Will Not Work
230	60	230	60	None Required - or - Straight Isolation
230	60	115/230	50/60	None Required - or - Straight Isolation

1. Determine if your equipment is Electronic or Electrical:
 - Electronic = containing IC chips, transistors or a circuit such as a radio, shavers, electric toothbrush, computer printers, camcorder battery rechargers etc...(if in doubt, check with the manufacturer or refer to your manual).
 - Electrical = Simple heating device, such as irons, hair dryers, electric blankets, curling irons, etc...
2. Use the chart below to locate correct series & voltage conversion in the catalog series that follow:

Transformer Type (determined from chart above)	Your Equipment Type	
	Electronic	Electrical
Step Up	Use Isolation (series 298)	Could use "Auto" (series 170 or 170E)
Step Down	Use Isolation (series 172, 179 or 289)	Could use "Auto" (series 175)
Straight Isolation	Use Isolation (series 169 or 171)	-

IMPORTANT NOTES

Isolation Transformers: Used for maximum safety, versatility (can be used on both electrical & electronic equipment) and isolation from the power source, used to step-up, step-down or for straight isolation. The disadvantage to using them is weight (about double the "Auto"), more expensive and larger size. This type of transformer is sometimes referred to as "double-wound"

"Auto" Transformers: are non-isolating units and should be used where only a voltage change is required. The advantages to using them are light weight (generally half that of an isolation unit), less expensive and smaller size. The disadvantage is no isolation from the power source. This type of transformer is sometimes referred to as a "converter".

Adaptors: We strongly recommend that 3-prong "grounded" plugs be used with all of our products. They should be used only with our "grounded" adaptors. Adaptors do not affect voltages, they are a mechanical device only to match foreign "pin-outs" of receptacles and/or plugs.

Line



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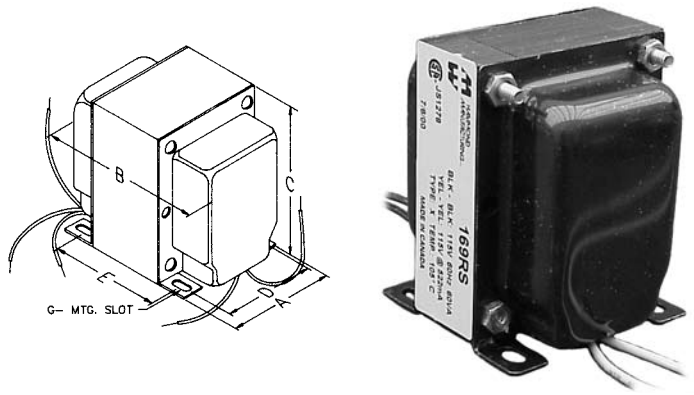
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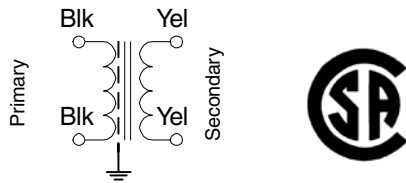
Straight Isolation - Hard Wired (169 Series)

LINE ISOLATION TRANSFORMERS (115V to 115V)

- Primary 115VAC, 60 Hz., Secondary 115VAC
- Electrostatic shield between primary & secondary
- Connection by flexible leads, 8" minimum length
- Perfect for circuit isolation or "Classic" bias power supply
- CSA certified (# LR3902)
- **Remember** - These units do NOT convert line frequency



Transformer Schematic

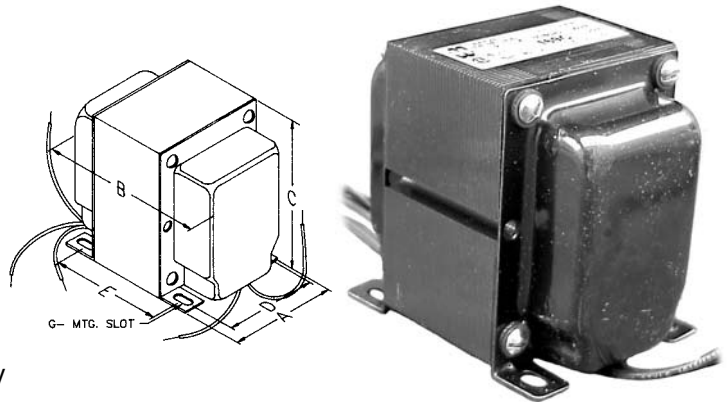


Part No.	Capacity		Dimensions (Inches)					Wt. Lbs.
	VA	Sec. Current ma	A	B	C	D	E	
169PS	15	130	1.88	2.07	2.50	1.50	1.19	1.3
169QS	40	260	2.19	2.50	2.63	1.75	1.44	2.5
169RS	60	435	2.50	2.75	3.06	2.00	1.69	3.3
169SS	90	650	2.50	3.25	3.06	2.00	2.19	4.5
169TS	135	870	3.13	3.50	3.81	2.50	2.19	6.5
169VS	175	1300	3.13	4.00	3.81	2.50	2.69	7
169WS	250	1700	3.75	4.00	4.56	3.00	2.81	12

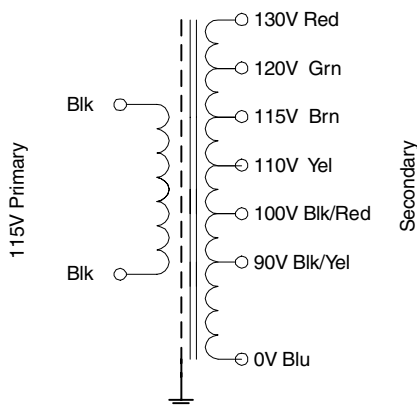
Line

LINE ISOLATION - TAPPED TRANSFORMERS (115V to 90-130V)

- Primary 115VAC, 60 Hz.
- Secondary taps @ 90, 100, 110, 115, 120 & 130VAC
- Electrostatic shield between primary & secondary
- Connection by flexible leads, 8" minimum length
- Perfect for critical line voltage needs (ex. Japanese 100V equipment).
- CSA certified (# LR3902) - except 169J
- **Remember** - These units do NOT convert line frequency



Transformer Schematic



Part No.	Capacity VA	Dimensions (Inches)					Wt. Lbs.
		A	B	C	D	E	
169C	100	2.50	3.50	3.06	2.00	2.44	4
169E	250	3.75	4.00	4.56	3.00	2.81	7
169G	500	6.75	5.50	4.56	3.00	4.31	15
169J	750	4.38	6.13	5.25	3.50	4.50	22



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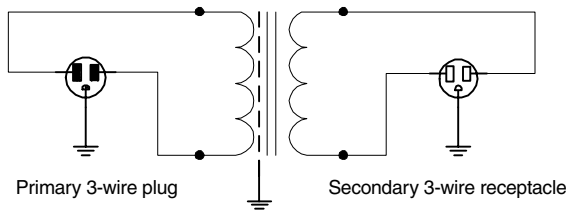
Straight Isolation - Plug In (171 Series)

Line

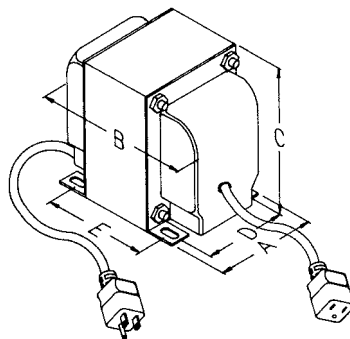


LINE ISOLATION PLUG & RECEPTACLE TRANSFORMERS (115V to 115V)

- Primary 115VAC, 50/60 Hz., Secondary 115VAC
- Provides circuit isolation.
- Electrostatic shield between primary & secondary.
- Hi-pot tested to 2 KV RMS.
- Circuit breaker in primary.
- Standard 3-wire, grounded plug & receptacle.
- Input (primary) connected to 5 foot long cord & standard North American plug (NEMA 5-15P).
- Output (secondary) connected to 1 foot long 3-wire, standard North American grounded receptacle (NEMA 5-15R).
- North American Mark of Safety - C UL & UL listed (File #E211544)
- **Remember** - These units do NOT convert line frequency



Part No.	Capacity VA	Dimensions (Inches)					Wt. Lbs.
		A	B	C	D	E	
171A	100	3.80	5.06	4.68	3.00	3.38	6.5
171B	200	3.80	5.56	4.68	3.00	3.88	8
171C	300	3.80	6.06	4.68	3.00	4.38	11
171E	500	3.80	7.06	4.68	3.00	5.38	14
171F	750	4.40	8.70	5.39	3.50	6.78	30
171G	1000	5.28	7.75	6.38	4.25	4.38	34.5



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Toroidal Straight Isolation - Plug In (178 & 240 Series)

Toroidal Isolation Plug In (120V to 120V)

- Primary 120VAC, 50/60 Hz., Secondary 120VAC.
- Provides circuit isolation.
- Toroidal transformer for high isolation, low noise, light weight, cool operation and low profile.
- World wide applications, 50 or 60 Hz. operation, step down (120VAC to 120 VAC).
- Standard 3-wire, grounded plug (for use with adaptors for proper grounding).
- Input (primary) connected to a 5 foot long cord & standard North American plug (NEMA 5-15P).
- Output (secondary) connected to two standard 3 wire grounded receptacles (NEMA 5-15R).
- Features include ventilated black steel case, rocker lighted on-off switch & circuit breaker protected output.
- North American Mark of Safety - C UL & UL listed (File #E211544).
- **Remember** - These units do NOT convert line frequency.



Line

Part No.	Capacity VA	# of Outlets	Dimensions (Inches)		
			Length	Width	Height
178CT	250	2	8.25	6.00	4.00
178DT	500	2	9.00	6.00	4.00
178ET	750	2	10.25	7.50	5.00
178FT	1000	2	10.25	7.50	5.00
178GT	1500	2	12.50	9.00	5.00

Toroidal Isolation Plug In (240V to 240V)

- Primary 240VAC, 50/60 Hz., Secondary 240VAC.
- Provides circuit isolation.
- Toroidal transformer for high isolation, low noise, light weight, cool operation and low profile.
- World wide applications, 50 or 60 Hz. operation, step down (240VAC to 240VAC).
- Standard 3-wire, grounded plug (for use with adaptors for proper grounding).
- Input (primary) connected to a 5 foot long cord & standard North American plug (NEMA 6-15P).
- Output (secondary) connected to a standard 3 wire grounded duplex receptacle (NEMA 6-15R).
- Features include ventilated black steel case, rocker lighted on-off switch & circuit breaker protected output.
- North American Mark of Safety - C UL & UL listed (File #E211544).
- **Remember** - These units do NOT convert line frequency.



Part No.	Capacity VA	# of Outlets	Dimensions (Inches)		
			Length	Width	Height
240CT	250	2	8.25	6.00	4.00
240DT	500	2	9.00	6.00	4.00
240ET	750	2	10.25	7.50	5.00
240FT	1000	2	10.25	7.50	5.00
240GT	1500	2	12.50	9.00	5.00

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Straight Isolation - Constant Voltage - Plug In (CV Series)



Line

Constant Voltage A.C. Regulator - Plug In (120 V to 120V)

- AC regulating - protects against both brownouts & over voltage conditions.
- Protects against any power problem other than a blackout.
- Will operate through a 3 millisecond (minimum) blackout.
- Long life - ferroresonant design - no moving parts.
- Ferroresonant design also filters out surges, line harmonics, and RF noise.
- Input 120VAC (+10 % to -25 %), 60 Hz
- Output 120VAC (+/- 3 %).
- Provides circuit isolation.
- Noise Isolation (RF) of 120 db common mode, 60 db normal mode.
- Spike attenuation: 250:1 minimum.
- Sine wave output - total harmonic distortion (THD): 3 %
- Units also include a 2nd stage of high frequency filtering on the output - a Hammond Mfg. exclusive.
- Operating temperature range of -40 degrees C to +40 degrees C.
- Standard 3-wire, grounded plug & receptacle.
- Front panel lighted power switch.
- Input (primary) connected to an extra long 15 foot, heavy duty 14/3 SJTW cord for extreme temperature ranges.
- Integral molded, standard North American plug (NEMA 5-15P).
- Output (secondary) connected to a rear mounted, standard North American, grounded receptacle (NEMA 5-15R) - quantity depends on power capacity of unit (see table below).
- Rugged two piece ventilated steel enclosure.
- Finished in a grey/beige color, textured powder paint with rubber feet installed.
- NOTE 1: Due to the nature of ferroresonant designs - these units do produce audible noise. We have reduced this through careful design, but these units are NOT usable in an office environment.
- NOTE 2: These units provide complete isolation from the source voltage. In other words, the "neutral" output wire has no connection to ground, this is a UL requirement for this type of device. Therefore plug-in circuit testers & line "polarity" testing devices will NOT function on the output as it is completely isolated.
- North American Mark of Safety: C UL & UL listed (File #E211544).

Part No.	Capacity		Number of Rear Outlets	Dimensions (Inches)			Wt. Lbs.
	VA	Amps (RMS)		Height	Width	Depth	
CV120300	300	2.5	2	7.00	7.13	12.30	25.3
CV120600	600	5	4	9.00	10.13	19.50	48
CV1201200	1200	10	4	9.00	10.13	19.50	74
CV1201800	1800	15	6	12.00	12.13	20.50	95



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Toroidal Isolation - Step Up - Plug In (298 Series)



LINE ISOLATION STEP UP - PLUG IN (120V to 240V)

Line

- Primary 120VAC, 50/60 Hz., Secondary 240VAC.
- Provides circuit isolation.
- Toroidal transformer for high isolation, low noise, light weight, cool operation and low profile.
- World wide applications, 50 or 60 Hz. operation, step UP (120VAC to 240 VAC).
- Standard 3-wire, grounded plug (for use with adaptors for proper grounding).
- Input (primary) connected to a 5 foot long cord & standard North American plug (NEMA 5-15P).
- Output (secondary) connected to a standard N. American duplex - 3 wire grounded receptacles (NEMA 6-15R).
- Features include ventilated black steel case, rocker lighted on-off switch & circuit breaker protected output.
- North American Mark of Safety - C UL & UL listed (File #E211544).
- **Remember** - These units do NOT convert line frequency.

Part No.	Capacity VA	# of Outlets	Dimensions (Inches)		
			Length	Width	Height
298CT	250	2	8.25	6.00	4.00
298DT	500	2	9.00	6.00	4.00
298ET	750	2	10.25	7.50	5.00
298FT	1000	2	10.25	7.50	5.00
298GT	1500	2	12.50	9.00	5.00

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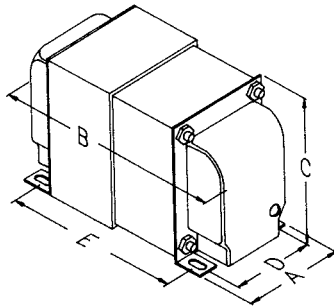
Isolation - Step Down - Plug In (172 & 289 Series)

Line



LINE ISOLATION - STEP DOWN PLUG-IN TRANSFORMERS (230V to 115V)

- Primary 230VAC, 50/60 Hz. Secondary 115VAC
- Circuit breaker in primary.
- Provides circuit isolation & steps down primary voltage.
- Hi-pot tested to 2 KV RMS.
- Electrostatic shield between primary & secondary.
- Input (primary) connected to a 5 foot long cord & North American 250V, 3-wire grounded plug (NEMA 6-15P).
- Output (secondary) connected to a 1 foot long cord & standard North American 125V, 3-wire grounded receptacle (NEMA 5-15R).
- North American Mark of Safety - C UL & UL listed (File #E211544).
- **Remember** - These units do NOT convert line frequency



Part No.	Capacity VA	Dimensions (Inches)					Wt. Lbs.
		A	B	C	D	E	
172A	100	3.80	5.06	4.68	3.00	3.38	6.5
172B	200	3.80	5.56	4.68	3.00	3.88	8.5
172D	500	3.80	7.06	4.68	3.00	5.38	18.5
172E	750	4.40	8.70	5.39	3.50	6.78	30.0
172F	1000	5.28	7.75	6.38	4.25	4.38	34.5



LINE ISOLATION - TOROIDAL STEP DOWN - PLUG IN (240V to 120V)

- Primary 240VAC, 50/60 Hz., Secondary 120VAC.
- Provides circuit isolation.
- Toroidal transformer for high isolation, low noise, light weight, cool operation and low profile.
- World wide applications, 50 or 60 Hz. operation, step down (240VAC to 120 VAC).
- Standard 3-wire, grounded plug (for use with adaptors for proper grounding).
- Input (primary) connected to a 5 foot long cord & standard 250V 2 pole, 3 wire - North American plug (NEMA 6-15P).
- Output (secondary) connected to two standard 125V, 3-wire grounded receptacles (NEMA 5-15R).
- Features include ventilated black steel case, rocker lighted on-off switch & circuit breaker protected output.
- North American Mark of Safety - C UL & UL listed (File #E211544)
- **Remember** - These units do NOT convert line frequency

Part No.	Capacity VA	# of Outlets	Dimensions (Inches)		
			Length	Width	Height
289CT	250	2	8.25	6.00	4.00
289DT	500	2	9.00	6.00	4.00
289ET	750	2	10.25	7.50	5.00
289FT	1000	2	10.25	7.50	5.00
289GT	1500	2	12.50	9.00	5.00



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Isolation - Step Down - Plug In (179 Series)

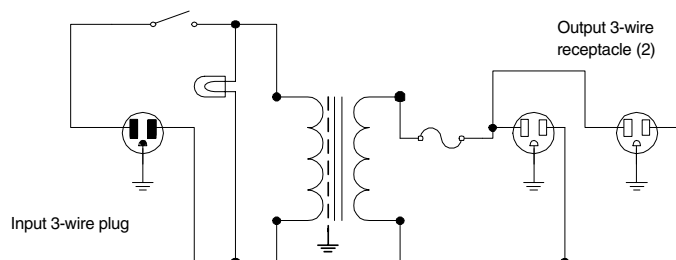


LINE ISOLATION STEP DOWN - PLUG IN (115V to 95V)

Line

- Primary 115VAC, 50/60 Hz., Secondary 95VAC.
- Provides circuit isolation.
- Electrostatic shield between primary & secondary.
- World wide applications, 50 or 60 Hz. operation, step down (115VAC to 95VAC).
- Designed mainly for Japanese equipment operating in North America.
- Perfect for operating "Classic" equipment that can not tolerate todays higher line voltages (ie..125VAC input will produce a stress free 105VAC output - at full load - PLUS - isolation and shielding).
- Standard 3-wire, grounded plug (can also be used with adaptors for proper grounding).
- Input (primary) connected to a 5 foot long cord and standard 3-wire, 125V North American plug (NEMA 5-15P).
- Output (secondary) connected to two standard 3-wire, 125V grounded receptacles (NEMA 5-15R).
- Features include ventilated black steel case, rocker lighted on-off switch & fuse protected output.
- **Remember** - These units do NOT convert line frequency

Part No.	Capacity VA	# of Outlets	Dimensions (Inches)		
			Length	Width	Height
179C	250	2	6.00	6.75	4.75
179D	500	2	6.00	8.25	4.75
179E	750	2	7.00	8.25	5.38
179F	1000	2	7.00	9.75	5.38
179G	1500	2	8.50	9.00	6.75



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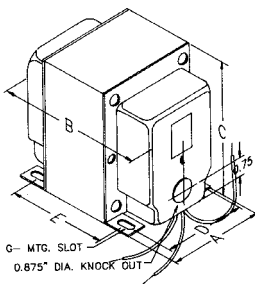
"Auto" - Hard Wired (170 Series)

Line

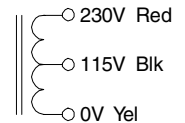


HARD WIRED LINE AUTOTRANSFORMERS

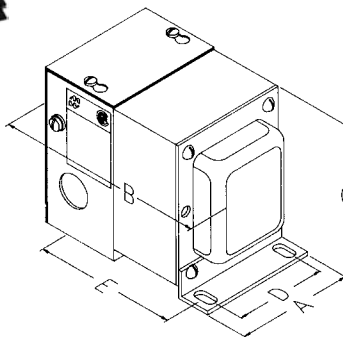
- Single winding, does not provide isolation, for use where equipment is already isolated and only voltage change is required.
- Flexible world wide applications, 50 or 60 Hz. operation, step down (230VAC to 115 VAC) or step up (115VAC to 230VAC).
- Connection by flexible leads, 8" minimum length.
- Models 170A, 170B, 170C & 170D are CSA certified (# LR 3902).
- **Remember** - These units do NOT convert line frequency.



Part No.	Capacity VA	Dimensions (Inches)					Wt. Lbs.
		A	B	C	D	E	
170	50	2.19	2.63	2.63	1.75	1.56	2
170A	100	2.50	3.00	3.06	2.00	1.94	3
170B	200	3.13	3.50	3.81	2.50	2.19	4.5
170C	300	3.13	4.00	3.81	2.50	2.69	6
170D	500	3.75	4.50	4.56	3.00	3.31	10
170E	750	3.75	5.50	4.56	3.00	4.31	14
170F	1000	3.75	5.50	4.56	3.00	4.31	14.5
170G	1500	4.38	6.63	5.30	3.50	5.10	22
170J	2000	4.38	6.63	5.25	3.50	5.10	23

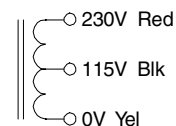


HARD WIRED LINE AUTOTRANSFORMERS



- Single winding, does not provide isolation, for use where equipment is already isolated and only voltage change is required.
- Flexible world wide applications, 50 or 60 Hz. operation, step down (230VAC to 115 VAC) or step up (115VAC to 230VAC).
- Totally enclosed rear case, includes handy internal grounding bolt.
- Extra vacuum varnish for use in high humidity.
- Includes a rear mounted (but not wired), standard 115VAC, 3-wire receptacle.
- Enclosed case with convenient knockouts and includes two cable clamps allowing for easy wire connections.
- Models 170SE, 170AE, 170BE, 170CE & 170DE are CSA certified (# LR3902)
- Connection by flexible leads, 8" minimum length
- **Remember** - These units do NOT convert line frequency.

Part No.	Capacity VA	Dimensions (Inches)					Wt. Lbs.
		A	B	C	D	E	
170SE	50	3.13	4.00	4.13	2.25	3.13	3.5
170AE	100	3.13	4.00	4.13	2.25	3.13	4
170BE	200	3.13	4.25	4.13	2.25	3.38	5
170CE	300	3.13	4.75	4.13	2.25	3.88	6.5
170DE	500	3.75	5.00	4.88	2.75	4.13	10
170EE	750	3.75	6.00	4.88	2.75	5.13	15
170FE	1000	3.75	6.00	4.88	2.75	5.13	15.5
170GE	1500	4.38	7.00	5.50	3.25	5.88	23.5
170JE	2000	4.38	7.00	5.50	3.25	5.88	24.0



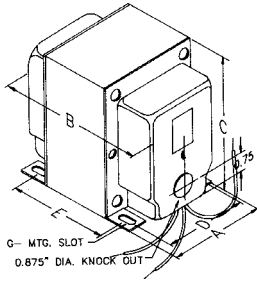
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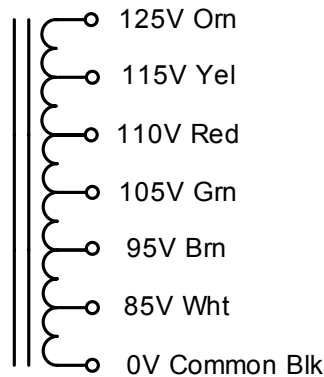


HARD WIRED LINE AUTOTRANSFORMERS

Line

- Single winding, does not provide isolation, for use where equipment is already isolated and only voltage change is required.
- Flexible world wide applications, 50 or 60 Hz. operation, 115VAC input.
- Output taps @ 85, 95, 105, 110, 115 and 125VAC.
- Ideal for manual line voltage adjustment for electronic equipment or small appliance operation.
- Models 168B, 168C & 168D are CSA certified (# LR3902)
- Connection by flexible leads, 8" minimum length.
- **Remember** - These units do NOT convert line frequency.

Part No.	Capacity VA	Dimensions (Inches)					Wt. Lbs.
		A	B	C	D	E	
168B	200	3.13	3.25	3.81	2.50	1.94	4.3
168C	350	3.13	4.00	3.81	2.50	2.69	6.5
168D	500	3.75	4.00	4.56	3.00	2.81	8
168E	750	3.75	4.50	4.56	3.00	3.31	10
168F	1000	3.75	5.50	4.56	3.00	4.31	14
168H	1500	4.38	6.13	5.25	3.50	4.50	20
168J	2000	4.38	6.63	5.25	3.50	5.10	23



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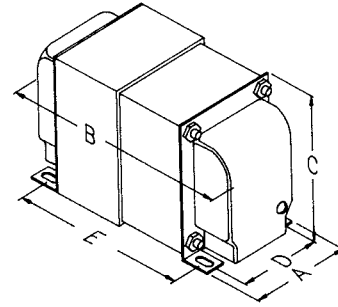
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"Auto" Step Down - Plug In (175 Series)

Line



PLUG IN - STEP DOWN AUTOTRANSFORMERS (230V to 115V)

- Single winding, does not provide isolation, for use where equipment is already isolated and only voltage change is required.
- World wide applications, 50 or 60 Hz. operation, step down (230VAC to 115VAC).
- Input is circuit breaker protected.
- Hi-pot tested to 2 KV RMS.
- Standard 3-wire, grounded plug (can also be used with adaptors for proper grounding).
- Input connected to a 5 foot cord & grounded North American 250V 3-wire plug (NEMA 6-15P).
- Output connected to standard North American 115V - 3 wire grounded receptacle (NEMA 5-15R).
- North American Mark of Safety - C UL & UL listed - File #E211544
- **Remember** - These units do NOT convert line frequency.

Part No.	Capacity VA	Dimensions (Inches)					Wt. Lbs.
		A	B	C	D	E	
175A-NA	100	3.16	4.25	3.81	2.50	2.94	3.5
175B-NA	200	3.16	4.50	3.81	2.50	3.19	4.5
175C-NA	300	3.16	5.00	3.81	2.50	3.69	6
175D-NA	500	3.80	6.00	4.68	3.00	4.38	10
175E-NA	750	3.80	7.06	4.68	3.00	5.38	14
175F-NA	1000	3.80	7.06	4.68	3.00	5.38	14.5
175G-NA	1500	4.40	6.63	5.39	3.50	6.09	22



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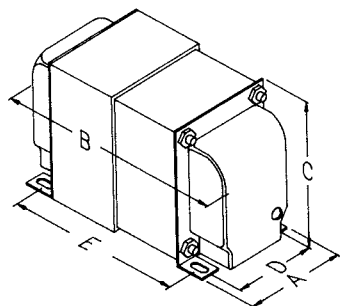
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"Auto" Step Up - Plug In (176 Series)



Line

Autotransformer Step Up - Plug In (115V to 230V)

- Single winding, does not provide isolation, for use where equipment is already isolated and only voltage change is required.
- World wide applications, 50 or 60 Hz. operation, step up (115VAC to 230VAC).
- Input is circuit breaker protected.
- Hi-pot tested to 2 KV RMS
- Standard 3-wire, grounded plug (can also be used with adaptors for proper grounding).
- Input is connected to a 5 foot cord & standard grounded 125V North American plug (NEMA 5-15P)
- Output is connected to a grounded North American 250V receptacle (NEMA 6-15R).
- North American Mark of Safety - C UL & UL listed (File #E211544)
- **Remember** - These units do NOT convert line frequency.

Part No.	Capacity VA	Dimensions (Inches)					Wt. Lbs.
		A	B	C	D	E	
176A	120	3.16	4.25	3.81	2.50	2.94	3.5
176B	200	3.16	4.50	3.81	2.50	3.19	4.5
176C	300	3.16	5.00	3.81	2.50	3.69	6
176D	500	3.80	6.00	4.68	3.00	4.38	10
176E	750	3.80	7.06	4.68	3.00	5.38	14
176F	1000	3.80	7.06	4.68	3.00	5.38	14.5
176G	1500	4.40	6.63	5.39	3.50	6.09	22



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Line Transformers - Accessories

INTERNATIONAL - GROUNDED ADAPTOR PLUGS

- For use with our 171, 172, 175, 176, 179, 289 & 298 transformers.
- Heavy duty design with plastic shell & double wipe contacts.
- Allows for ground connection between equipment and international power sources.
- With a set of all 4 adaptors, they will accept equipment with plugs from virtually every country except South Africa!
- Adaptors do not affect voltages, they are a mechanical device only to match foreign "pin-outs" of receptacles and/or plugs.



**Rear View of all
adaptors**

Part No.	Grounded Plug Type	Used in the Countries of:
298G4	European	Austria, Belgium, Finland, France, Germany, Middle East, Netherlands, Norway, Parts of Africa/Asia/South America/China/Tahiti & Caribbean, Sweden
298G3	British	Hong Kong, Ireland, Malaysia, Parts of Africa, Caribbean, Singapore, U.K.
298G6	Australian	Australia, People's Republic of China, S. Pacific Islands, New Zealand
298G7	N. American	Canada, Parts of the Caribbean/South America, Philippines, USA

Line



298G4



298G3



298G6



298G7



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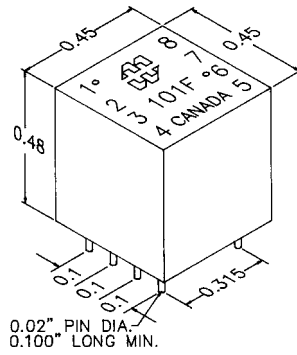
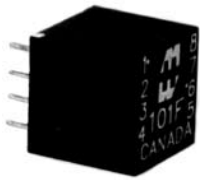
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Audio

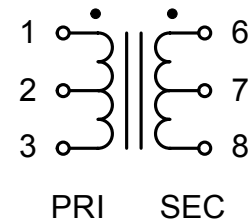
P.C. Board Mount (101-106 Series)

MINIATURE EPOXY POTTED AUDIO TRANSFORMERS

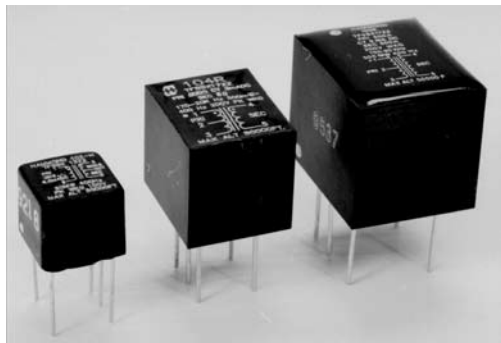


- Pin type, P.C. board mount, net weight of only 0.1 oz.
- Rugged black epoxy potted construction produces a completely sealed unit withstanding severe environmental conditions.
- Secondary may be used as primary and primary as secondary.
- Power level: 100mw @ 300 Hz. to 100 KHz.
 - Freq. range @ +10 dbm is 200 Hz. to 100 KHz. +/- 0.5db
 - Freq. range @ +15 dbm is 200 Hz. to 100 KHz. +/- 0.5db
 - Freq. range @ +20 dbm is 300 Hz. to 100 KHz. +/- 0.5db
 - Freq. measurements with no D.C. saturation.

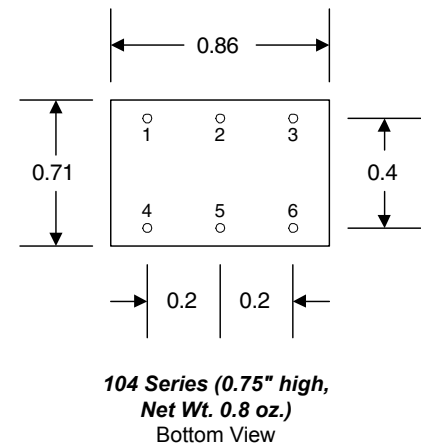
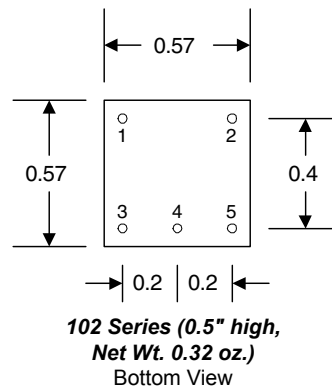
Part No.	Nominal Impedance		Nominal Resistance		Useful Impedance Range	
	Primary	Secondary	Primary	Secondary	Pri./Sec. to Pri./Sec.	
101D	300 C.T.	600 C.T.	20.4	54	150/300	600/1200
101F	600 C.T.	600 C.T.	44	52	300/300	1200/1200
101H	1200 C.T.	600 C.T.	80	53	600/300	2400/1200
101J	2500 C.T.	600 C.T.	150	54	1250/300	5000/1200
101P	300 C.T.	50 C.T.	20.4	4.8	150/25	600/100
101R	600 C.T.	50 C.T.	44	4.7	300/25	1200/100
101V	2500 C.T.	50 C.T.	150.7	4.9	1250/25	5000/100



Audio

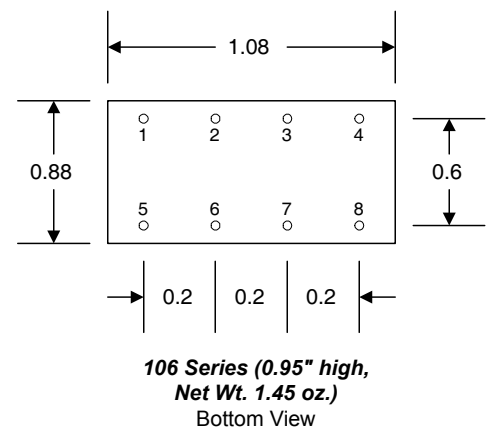


102 Series 104 Series 106 Series



MINIATURE EPOXY POTTED AUDIO TRANSFORMERS

- Output power models from 5 to 1,500 milliwatt level available.
- 0.5" long pin type (.025" dia. on 102 series, .032" dia. on 104 & 106 series), P.C. board mount.
- Bifilar winding technique used on center tapped units for balanced resistive and capacitive characteristics.
- Rugged black epoxy potted construction produces a completely sealed unit withstanding severe environmental conditions including those of MIL-T-27 (Grade 5, Class S).
- For the more economical open type P.C. mount types please refer to the 148 & 149 series.
- Peak working voltage rating of: 100V (102 Series) & 200V (104 & 106 Series).
- Referring to figures 1-9, if connection is not used - no pin will exist.



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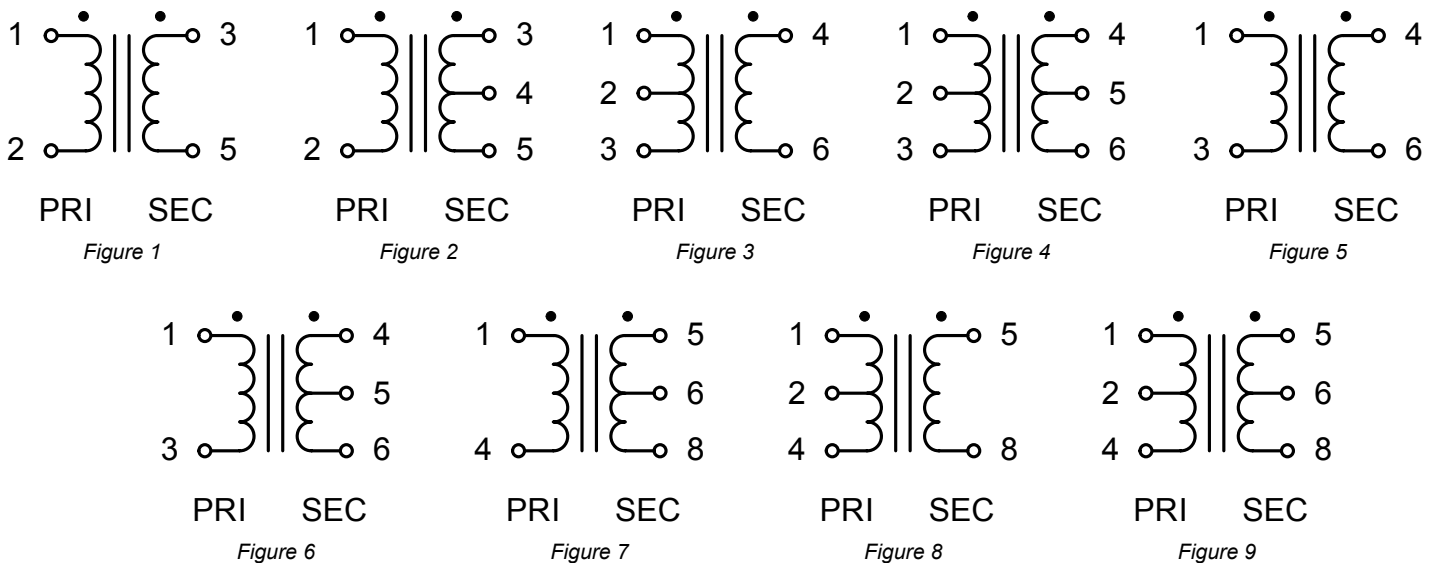
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MINIATURE EPOXY POTTED AUDIO TRANSFORMERS (Continued)

Part No.	Application	Nominal Impedance		Pri D.C. (*1) ma	D.C. Resistance +/- 15%		Output (*2) Milliwatts	Insertion Loss (*3) db	Freq (*4) -1 db Hz.	Dwg. Figure
		Primary	Secondary		Primary	Secondary				
102B	Input	50	1,500	0	4	95	20	1.5	310	1
102D	Input	600	1,500	0	43	85	20	1.5	310	1
102H	Interstage	2,000	500 C.T.	5.6	341	62	20	1.5	310	2
102J	Interstage	6,000	2,000 C.T.	2.8	900	260	20	1.5	310	2
102K	Interstage	10,000	2,000 C.T.	2.5	1585	260	20	1.5	310	2
104B	Input	150	80,000	0	6.6	3730	5	1	60	5
104H	Interstage	10,000	2,000 C.T.	3.2	675	89	35	1	200	6
104K	Interstage	20,000	1,000 C.T.	3.2	790	125	35	1	200	6
104L	Interstage	25,000	600 C.T.	2	1890	50	35	1	200	6
104Q	Output	500 C.T.	3.2	6	27	0.4	500	1	200	3
104R	Output	500 C.T.	8	6	27	0.9	500	1	200	3
104S	Output	600 C.T.	150 C.T.	6	47	10.6	500	1	200	4
106C	Input	50,000	1,500 C.T.	0	2400	52	10	1	60	7
106E	Input	600 C.T.	600	9	65	83	500	1	150	8
106EE	Input	600 C.T.	600 C.T.	9	65	83	500	1	150	9
106G	Interstage	4,000	600 C.T.	10	340	24	150	1	215	7
106H	Interstage	4,000	2,600 C.T.	10	340	100	150	1	215	7
106J	Interstage	10,000	2,000 C.T.	6.5	700	89	150	1	215	7
106M	Interstage	20,000	2,000 C.T.	4.5	1180	89	150	1	215	7
106Q	Output	48 C.T.	3.2	32	2.4	0.3	1,500	1	170	8
106R	Output	48 C.T.	8	32	2.4	0.7	1,500	1	170	8
106S	Output	100 C.T.	3.2	22	4.4	0.3	1,500	1	170	8
106T	Output	100 C.T.	8	22	4.4	0.7	1,500	1	170	8
106V	Output	250 C.T.	8	14	11	0.7	1,500	1	170	8
106W	Output	500 C.T.	3.2	10	26	0.3	1,500	1	170	8
106X	Output	500 C.T.	8	10	26	0.7	1,500	1	170	8

NOTES:

- *1) Where primary is center-tapped, this figure is the maximum unbalance
- *2) When operating at impedances below normal, power capability and the frequency spectrum are proportionately lower, conversely, at higher impedances power capability and frequency spectrum will be proportionately higher.
- *3) Insertion loss measured at 1000 Hz.
- *4) Approximate frequency in hertz at which the output, at rated load and D.C. unbalance, is 1 db below the 1000 Hertz rating. The high frequency roll-off point exceeds 20 KHz. (Above 35 KHz. in most types).



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Audio

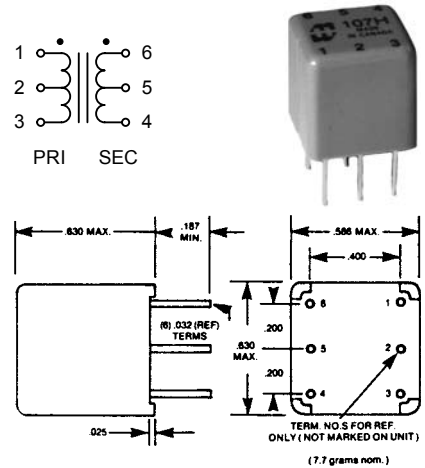
P.C. Board Mount (107-109 Series)

MINIATURE EPOXY POTTED AUDIO TRANSFORMERS

- Audio input, line matching and output transformers.
- Epoxy potted in an attractive molded case, Pin type P.C. board mount (min. 0.187" length).
- In some models where no center tap is required (on secondary), pin No. 5 is omitted.
- Power level ratings are maximum at lowest frequency rating (noted by series above charts) power can be increased slightly at higher frequencies (except 107X).
- Will withstand soldering for 10 sec. @ 260 degrees C, ambient temp. 85 degrees C max.

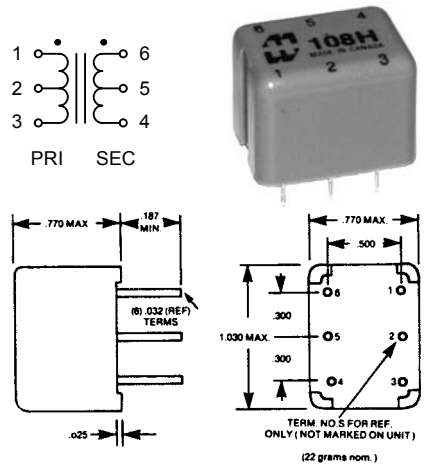
150 milliwatt (+/- 1.5 db, 300 Hz. - 50 Khz.) - 107 Series

Part No.	Nominal Impedance Primary (1-3)	Secondary (4-6)	D.C. Resistance +/- 20% Primary (1-3)	Secondary (4-6)	Max D.C. Unbalance
107B	150 C.T.	12	20	2	12
107D	150 C.T.	150 C.T.	20	25	12
107E	600 C.T.	3.2	59	0.6	6
107G	600 C.T.	250 C.T.	59	10	6
107H	600 C.T.	600 C.T.	59	75	6
107J	1K C.T.	600 C.T.	92	71	4.5
107L	10K C.T.	3.2	780	0.65	1.5
107N	10K C.T.	600 C.T.	680	70	1.5
107P	10K C.T.	1.5K C.T.	680	150	1.5
107R	10K C.T.	4K C.T.	680	390	1.5
107T	10K C.T.	10K C.T.	680	700	1.5
107V	25K C.T.	600 C.T.	1300	70	1
107X	100K C.T.	1K C.T.	3700	80	0



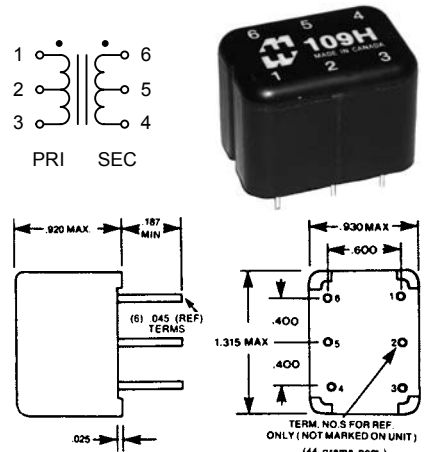
500 milliwatt (+/- 1.5 db, 300 Hz. - 50 Khz.) - 108 Series

Part No.	Nominal Impedance Primary (1-3)	Secondary (4-6)	D.C. Resistance +/- 20% Primary (1-3)	Secondary (4-6)	Max D.C. Unbalance
108E	600 C.T.	3.2	65	0.43	6
108F	600 C.T.	150 C.T.	65	18	6
108G	600 C.T.	250 C.T.	65	29	6
108H	600 C.T.	600 C.T.	65	69	6
108J	1K C.T.	600 C.T.	109	69	4.5
108K	1.5K C.T.	600 C.T.	170	69	4
108L	10K C.T.	3.2	1050	0.43	1.5
108N	10K C.T.	600 C.T.	1050	69	1.5
108P	10K C.T.	1.5K C.T.	1050	180	1.5
108T	10K C.T.	10K C.T.	1050	1200	1.5



2 Watt (+/- 1.5 db 300Hz. - 50 Khz.) - 109 Series

Part No.	Nominal Impedance Primary (1-3)	Secondary (4-6)	D.C. Resistance +/- 20% Primary (1-3)	Secondary (4-6)	Max D.C. Unbalance
109E	600 C.T.	3.2	43	0.37	6
109F	600 C.T.	150 C.T.	43	15	6
109G	600 C.T.	250 C.T.	43	24	6
109H	600 C.T.	600 C.T.	43	60	6
109J	1K C.T.	600 C.T.	69	60	4.5
109K	1.5K C.T.	600 C.T.	105	60	4
109L	10K C.T.	3.2	700	0.37	1.5
109N	10K C.T.	600 C.T.	700	60	1.5
109R	10K C.T.	1.5K C.T.	700	150	1.5
109T	10K C.T.	10K C.T.	700	1000	1.5



Audio

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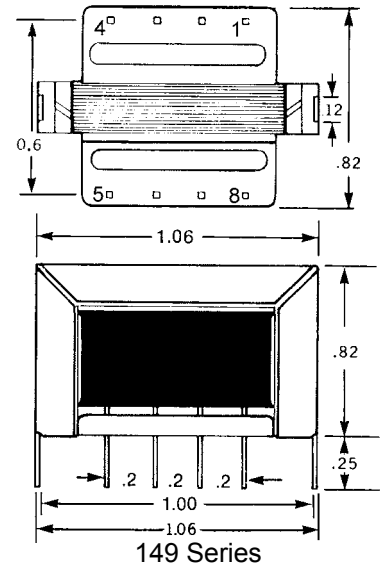
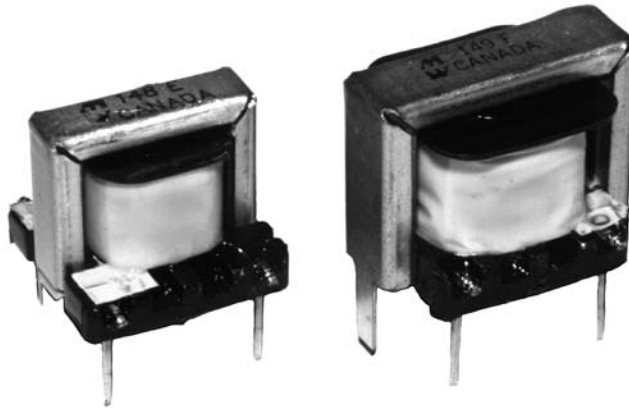
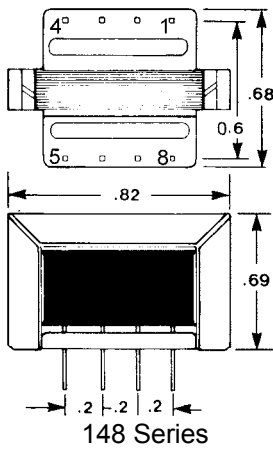
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P.C. Board Mount (148-149 Series)



P.C. BOARD MOUNT AUDIO TRANSFORMERS

- Pin type (0.25" length & 0.025" square), P.C. board mount.
- Economical, open type, horizontal bracket construction. 149 Series includes clinching lugs for extra mounting strength.
- Frequency response 200 Hz. - 15 Khz. (+/- 1 db, ref. @ 1 Khz.).
- Total distortion approximately 2% for drivers and 1% for outputs at 200 Hz., decreasing at higher frequencies.
- Insertion loss less than 1/2 db.
- Bifilar wound for balanced capacitive and resistance characteristics, on pin bobbins for standard 0.2" grid pin spacing.
- Insulation test 250V RMS.
- For rugged epoxy cast type units refer to our 102, 104, 106, or 107, 108 & 109 series.
- Net weight: 0.6 oz. (148 Series) & 1.0 oz. (149 Series).

Audio

Part No.	Application	Nominal Impedance		Pri D.C. (*1) ma.	D.C. Resistance +/- 15% (*2)		Output Milliwatts	Dwg. Figure
		Primary	Secondary		Primary	Secondary		
148A	Input	150/600	600/2400	1.9	45	300	300	1
148B	Input	150	400/1600	3.8	11.3	200	300	2
148C	Input	50000	250/1000	0	1760	25.4	12	2
148D	Input	200K	1000	0	1760	6.2	3	3
148E	Driver	500	125/500	18	79	60	75	2
148F	Driver	1500	125/500	11.6	220	58	75	2
148H	Driver	3000	250/1000	7.5	480	107	75	2
148K	Driver	4000	500/2000	6.5	540	230	75	2
148M	Driver	6000	500/2000	5.3	850	230	75	2
148Q	Driver	10000	500/2000	4.1	1700	238	75	2
148R	Driver	20000	250/1000	2.4	2230	123	50	2
148T	Output	500 C.T.	3.2	2.1	41	0.34	300	4
148V	Output	600 C.T.	150 C.T.	1.9	45	14	300	5
148X	Output	4000 C.T.	3.2	0.8	380	0.34	300	4
148Y	Output	5000 C.T.	500 C.T.	0.7	410	52	300	5
149C	Driver	160	20/80	56	24	6.5	200	2
149E	Driver	300	30/120	42	41	9.7	200	2
149F	Driver	450	40/160	33	52	19	200	2
149G	Driver	600	150/600	29	92	58	200	2
149H	Driver	1000	60/240	22	155	24	200	2
149Q	Output	200 C.T.	3.2	7	19	0.4	1000	4
149S	Output	600 C.T.	150 C.T.	4	53	17	1000	5
149T	Output	600 C.T.	600 C.T.	4	53	70	1000	5
149U	Output	150/600	8	4	53	95	1000	6
149V	Hybrid	600 C.T.	300/1200	4	53	63	1000	7

NOTES:

*1) For output transformers the current figure is for maximum unbalanced current

*2) D.C. resistance shown is for the total primary or secondary windings (ie: if unit contains multiple primary or secondary windings the figure shown is with the windings connected in series).

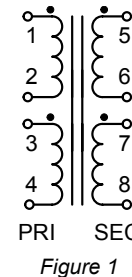


Figure 1

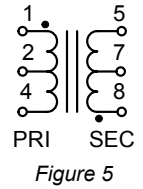


Figure 5

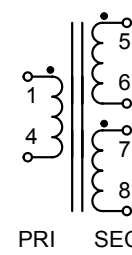


Figure 2

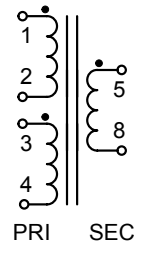


Figure 6

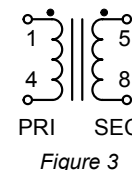


Figure 3

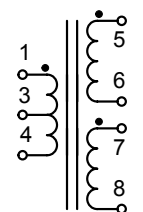


Figure 7

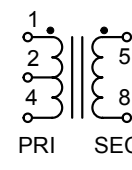


Figure 4

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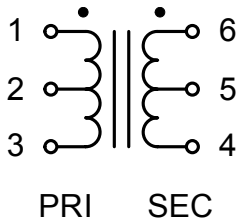


P.C. Board & Chassis Mount (140-141 Series)

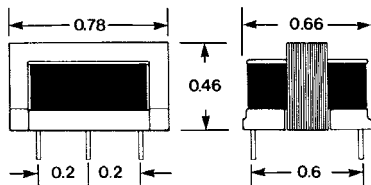


LOW PROFILE - P.C. BOARD MOUNT AUDIO TRANSFORMERS

- Pin type (0.25" length & 0.035" diameter), P.C. board mount
- Low profile, open type construction
- Frequency response 200 Hz. - 15 KHz. (+/- 2 db, ref. @ 1 KHz.)
- Net weight 0.6 oz.



Part No.	Nominal Impedance		Max. Pri. D.C. ma	D.C. Resistance		Output Milliwatts
	Primary	Secondary		Primary	Secondary	
141B	200K	1000	0	3775	85	4
141D	3000 C.T.	1000 C.T.	1	120	51	150
141F	25K	50	2	1645	65	100
141H	600 C.T.	600 C.T.	2	32	45	150
141M	30K	1200 C.T.	2	1100	47	100
141P	1200 C.T.	8	2	50	0.45	150



Audio

CHASSIS MOUNT - SHIELDED AUDIO TRANSFORMERS



- Insulated leads 5" long minimum
- Stamped steel case (Diameter of 1.25" and height of 1") for excellent shielding - low hum pick-up.
- Frequency response 70 Hz. - 11 KHz. (+/- 1 db, ref. @ 1 KHz.)
- Case hole mounting centers are 1.6"
- Net weight 2 oz.

Part No.	Application	Nominal Impedance		Overall Turns Ratio
		Primary	Secondary	Pri. to Sec.
140A	Voice Coil to Single Grid	4	60000	1:122
140B	Dyn. MIC. to Single Grid	30	60000	1:45
140C	MIC. to Single Grid	50	60000	1:34.5
140H	Bridging Line to P.P. Grids	10000	40000 C.T.	1:2
140K	MIC. to Single Grid	150	60000	1:2
140M	CRYS, MIC. to Base	100K	1500	8:1
140N	Dyn. MIC to Base	50	1500	1:5.5
140P	Line to Base	150/600	600/2400	1:2
140Q	Line to Line	600 C.T.	600 C.T.	1:1



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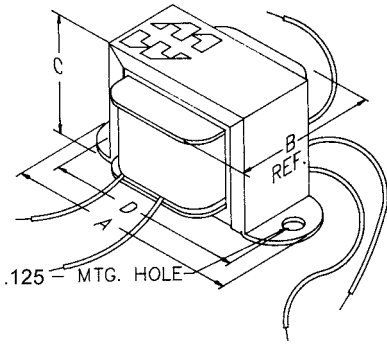


EUROPE
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Chassis Mount (143-146 Series)

CHASSIS MOUNT AUDIO TRANSFORMERS

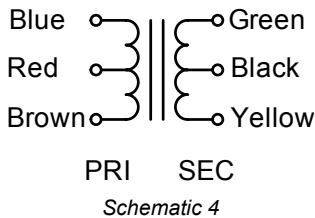
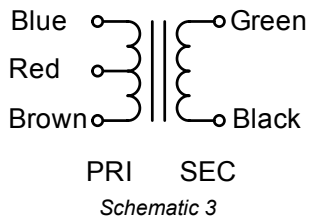
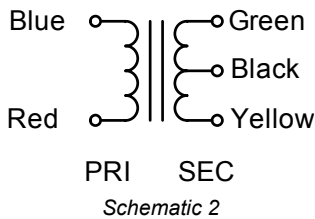
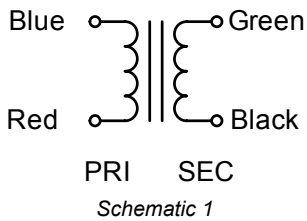


Series No.	Dimensions (Inches)			
	A	B	C	D
143...	1.35	0.69	0.69	1.06
144...	1.35	0.69	0.69	1.06
145...	1.63	0.88	0.81	1.38
146...	1.63	0.88	0.81	1.38

- Economical, open, two hole horizontal bracket mount.
- Insulated, color coded flexible leads, 4" long minimum (143, 144 & 145 Series) or 3" long minimum (146 Series).
- For a similar, P.C. board mount version, refer to our 148 & 149 Series.
- Frequency response 150 Hz. to 15 KHz. (+/- 1 db, reference 1000 Hz.)
- When operating at impedances below nominal, power capability and the frequency spectrum are proportionately lower, conversely, at higher impedances power capability and frequency spectrum will be proportionately higher.
- Net weight: 0.5 oz. (143, 144 & 146 Series) & 1.4 oz. (145 Series).

Part No.	Application	Nominal Impedance		Pri. D.C. (*1) ma	D.C. Resistance +/- 15%		Output mW	Sch.
		Primary	Secondary		Primary	Secondary		
143B	Input	3.2	4000	0	0.4	245	15	1
143D	Input	200K	1000	0	4500	30	25	1
143H	Driver	1500	500 C.T.	4	111	24	30	2
143J	Driver	3000	1000 C.T.	2.6	265	53	30	2
143L	Driver	10000	200 C.T.	1.5	720	9	30	2
143N	Driver	10000	2000 C.T.	1.5	720	89	30	2
143R	Driver	25000	600 C.T.	1	1890	25	30	2
144B	Output	200 C.T.	3.2	10	10	0.33	150	3
144D	Output	300 C.T.	3.2	9	15	0.33	150	3
144F	Output	500 C.T.	3.2	6	27	0.33	150	3
144G	Output	500 C.T.	8	6	27	0.9	150	3
144H	Output	500 C.T.	50	6	28	7.3	150	3
144I	Output	600 C.T.	150 C.T.	6	45	8.2	150	4
144P	Output	10000	3.2	5	575	0.5	50	1
144Q	Output	10000	8	5	575	0.9	50	1
144S	Output	20000	8	3.5	1240	0.9	50	1
145A	Driver	100	200 C.T.	45	14	19	100	2
145B	Driver-Output	600	600	18	30	38	200	1
145C	Input	50000	1500 C.T.	1	2400	52	50	2
145D	Input	200K	1000	0.5	3600	33	10	1
145E	Input-Output	600 C.T.	600 C.T.	5	65	83	200	4
145F	Driver	600 C.T.	200 C.T.	20	45	9	135	4
145G	Driver	2000	200 C.T.	12	140	9	135	2
145H	Driver	2000	500 C.T.	12	148	17	135	2
145J	Driver	4000	600 C.T.	8	340	24	135	2
145L	Driver	4000	2600 C.T.	8	340	100	135	2
145N	Driver	10000	2000 C.T.	5	700	89	135	2
145O	Driver	15000	200 C.T.	4	850	10	135	2
145P	Driver	20000	1000 C.T.	3.5	1180	50	135	2
145R	Driver	20000	2000 C.T.	3.5	1180	89	135	2
146B	Output	48 C.T.	3.2	20	2.4	0.3	700	3
146C	Output	48 C.T.	8	20	2.4	0.7	700	3
146D	Output	100 C.T.	3.2	14	4.4	0.3	700	3
146E	Output	100 C.T.	8	14	4.4	0.7	700	3
146F	Output	250 C.T.	3.2	8	11	0.3	700	3
146G	Output	250 C.T.	8	8	11	0.7	700	3
146H	Output	500 C.T.	3.2	6	26	0.3	700	3
146I	Output	500 C.T.	8	6	26	0.7	700	3
146J	Output	1000 C.T.	3.2	4	56	0.3	700	3
146K	Output	1000 C.T.	8	4	56	0.7	700	3
146N	Output	2000 C.T.	8	3	97	0.7	700	3
146S	Output	4000 C.T.	8	2	220	0.7	700	3

Audio



NOTES:

*1) For output transformers this figure is maximum unbalance.

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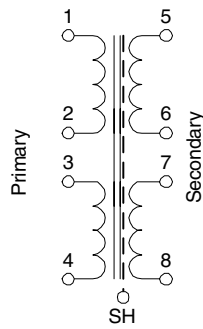
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St. Laurent, Quebec (514) 343-9010

USA

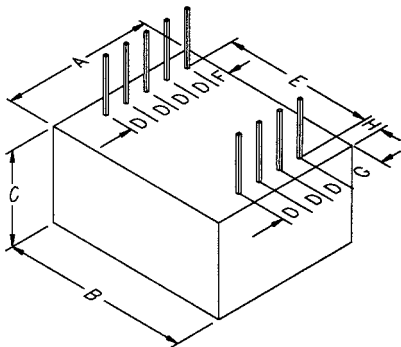
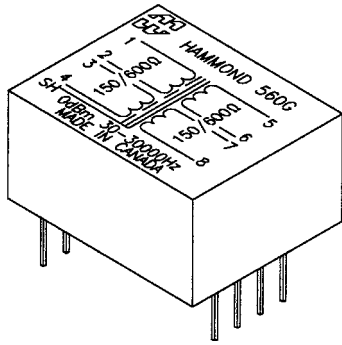
Cheektowaga, NY (716) 630-7030





P.C. BOARD MOUNT - EPOXY POTTED AUDIO TRANSFORMERS

- Rugged black epoxy potted case with 9 pin connections (.025" square by 0.5" long).
- Frequency response @ 0 dbm +/- 1 db max. (+/- 0.5 db is typical) of 30 Hz. to 30 KHz., except 560Q which is 30 Hz. to 15 KHz.
- Insertion loss of 1 db max.
- Maximum power level 0 dbm.
- Electrostatic shield between primary & secondary connected to core and pin "SH".
- Humbucking construction
- Balanced split windings on primary & secondary for circuit versatility.
- Primaries and secondaries can be reversed for impedance matching.
- Overall dimensions 1.64" x 1.33" x 0.85" high max.
- Shipping weight 4 oz.

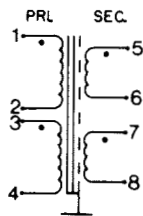
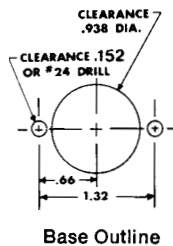


Part No.	Application	Nominal Impedance	
		Primary	Secondary
560C	Emitter or mic to Line	12/48	150/600
560E	Emitter or mic to Line	50/200	150/600
560G	Isolating or Hybrid	150/600	150/600
560J	Collector to Line or Line to Base	150/600	1200/4800
560L	Collector to Line or Matching	150/600	5K/20K
560N	Collector to Line	150/600	10K/40K
560Q	Matching or Bridging	10k/40k	10K/40K

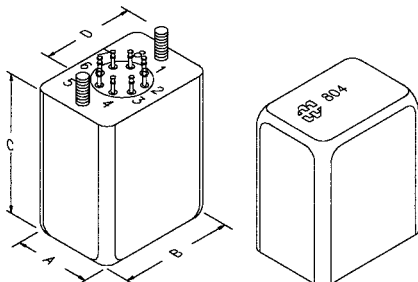
Dimensions (Inches)							
A	B	C	D	E	F	G	H
1.33	1.64	0.85 Max.	0.20	1.30	0.141	0.344	0.156

Audio

CHASSIS MOUNT - HERMETICALLY SEALED AUDIO TRANSFORMERS



- Deep-drawn steel case with tin plated finish, with two convenient 6-32 mounting studs with hardware.
- Hermetically sealed for stable characteristics and long life. Header has nine 0.22" long solder pins.
- Frequency response +/- 0.5 db max. from 50 Hz. to 15 KHz.
- Insertion loss of apx. 1 db.
- Maximum power level +15 dbm. (except 841, 842 & 844 which are +20 dbm) with specified characteristics, or higher levels with reduced low frequency performance.
- Electrostatic shield between primary & secondary connected to terminal 9.
- Humbucking construction
- Balanced split windings on primary & secondary for circuit versatility. Primary may be used as a secondary and vice versa for impedance matching.
- Overall dimensions 1.75" wide x 1.25" deep x 2.56" high max.
- Shipping weight 0.5 lb.



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CHASSIS MOUNT - HERMETICALLY SEALED AUDIO TRANSFORMERS (continued)

Part No.	Application	Nominal Impedance		Max. Pri. D.C. Unbalanced ma
		Primary	Secondary	
801	Isolating, Matching	*50/200	50/200	0.8
802	Isolating, Matching	*50/200 (60/240)	125/500 (150/600)	0.8
804	Isolating, Matching, Hybrid	*125/500 (150/600)	125/500 (150/600)	0.5
806	Dynamic MIC or Voice Coil to Grid	*7.5/30	10K/40K	1.6
807	Dynamic MIC or Voice Coil to Base	*7.5/30	600/2400	1.6
808	MIC or Mixer to Single or P.P. Grid	*50/200	10000/40000	0.6
809	MIC to Mixer to Base	*50/200	600/2400	0.6
812	Line or 150 ohm MIC to 1 or 2 grids	*125/500 (150/600)	10K/40K (12K/48K)	0.4
813	Line or 150 ohm MIC to Base	*125/500 (150/600)	600/2400 (720/2880)	0.4
832	Interstage (ratio 1:2)	5K/20K	20K/80K	0
834	Interstage (ratio 1:4)	5K/20K	10K/40K	0
835	Interstage (ratio 1:1)	10K/40K	10K/40K	0
841	** P.P. Plates to Line	5K/20K	50/200	0
842	** P.P. Plates to Line	5K/20K (6K/24K)	125/500 (150/600)	0
844	** P.P. Plates to Line	10K/40K (12K/48K)	125/500 (150/600)	0

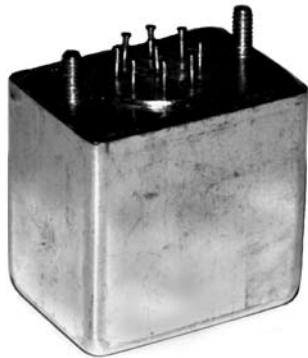
NOTES:

* Electrostatic shield between primary & secondary

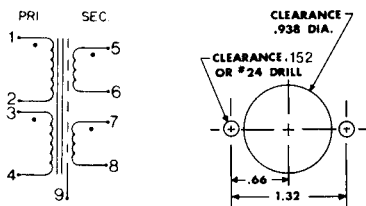
** Single plate requires parallel feed. When operating at impedances below nominal, power capability is lower and the frequency spectrum is shifted downward, conversely, at higher impedances power capability and frequency spectrum will be shifted upward.

Audio

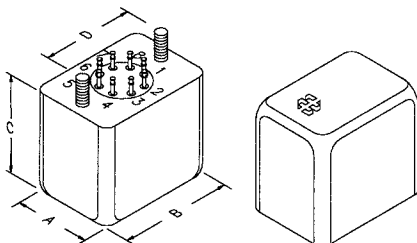
CHASSIS MOUNT - HERMETICALLY SEALED AUDIO TRANSFORMERS



- Deep-drawn steel case with tin plated finish, with two convenient 6-32 mounting studs with hardware (same as 800 series except low profile).
- Hermetically sealed for stable characteristics and long life. Header has nine 0.22" long solder terminals.
- Frequency response +/- 0.5 db max. from 20 Hz. to 20 Khz., except units over 5K ohms impedance, may be down 1 db @ 20 Khz.
- Insertion loss of apx. 1 db.
- Maximum power level +15 dbm. with specified characteristics, or higher levels with reduced low frequency performance.
- Distortion is apx. 1.5% @ 20 Hz. under full power.
- Electrostatic shield between primary & secondary connected to terminal 9.
- Humbucking construction
- Balanced split windings on primary & secondary for circuit versatility. Primary may be used as a secondary and vice versa for impedance matching.
- Overall dimensions 1.7" x 1.2" x 1.65" high max.
- Shipping weight 0.4 lb.



Base Outline



Part No.	Application	Nominal Impedance		Nominal Resistance +/- 20%	
		Primary	Secondary	Primary	Secondary
850C	Emitter or MIC to Line	12/48	150/600	6	70
850E	Emitter or MIC to Line	50/200	150/600	27	68
850G	Line Isolation or Hybrid	150/600	150/600	71	71
850H	Line Isolation or Hybrid	150/600	300/1200	70	140
850J	Output to Line, or Line to Base	150/600	1200/4800	69	570
850L	Output to Line, Matching or Bridging	5K/20K	150/600	2240	69
850N	Output to Line, Matching or Interstage	150/600	10K/40K	65	4980
850Q	Interstage or Isolating	10K/40K	10K/40K	4890	4980

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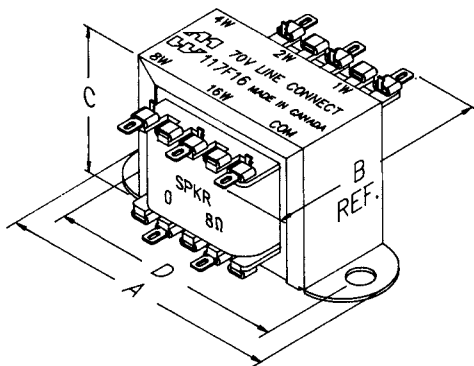
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Sound Distribution (117-119 Series)

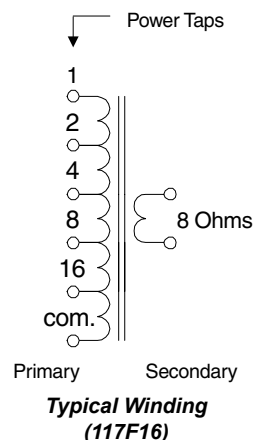
LINE MATCHING AUDIO TRANSFORMERS



- Couple 3.2, 8 or 16 ohm speakers to 25 or 70 volt line outputs of amplifiers.
- Up to 5 power tap levels available (except 117F2 which has 4).
- Primary taps marked in watts (no calculation necessary), to match speaker power.
- Frequency response 100 Hz. to 9 Khz. (1 db. reference @1 Khz.)
- Insertion loss less than 2 db.
- Distortion is less than 1.25% @ 100 Hz. at maximum power.
- Horizontal, channel bracket, 2-hole (.187" dia.) mounting.
- All models have solder lugs, also suitable for slip on jumper connections.
- Total power requirements of speakers should not exceed the rated power of each transformer or rated power of the amplifier.

Audio

Part No.	System Volts	Power Rating Watts	Audio Power Taps	Voice Coil Impedance Ohms	Mounting Centers	Wt. Lbs.	Dimensions (Inches)			
							A	B	C	D
117F2	70	2	2, 1, ½, ¼	8	2.00	0.5	2.38	1.38	1.38	2.00
117E4	70	4	4, 2, 1, ½, ¼	3.2	2.38	0.6	2.81	1.50	1.69	2.38
117F4	70	4	4, 2, 1, ½, ¼	8	2.38	0.6	2.81	1.50	1.69	2.38
117E8	70	8	8, 4, 2, 1, ½	3.2	2.81	0.9	3.25	1.75	2.00	2.81
117F8	70	8	8, 4, 2, 1, ½	8	2.81	0.9	3.25	1.75	2.00	2.81
117E16	70	16	16, 8, 4, 2, 1	3.2	3.13	1.5	3.69	2.00	2.31	3.13
117F16	70	16	16, 8, 4, 2, 1	8	3.13	1.5	3.69	2.00	2.31	3.13
117G16	70	16	16, 8, 4, 2, 1	16	3.13	1.5	3.69	2.00	2.31	3.13
117F32	70	32	32, 16, 8, 4, 2	8	3.56	2.3	4.03	2.25	2.63	3.56
117J4	25	4	4, 2, 1, ½, ¼	3.2	2.38	0.6	2.81	1.50	1.69	2.38
117K4	25	4	4, 2, 1, ½, ¼	8	2.38	0.6	2.81	1.50	1.69	2.38
117J8	25	8	8, 4, 2, 1, ½	3.2	2.81	0.6	3.25	1.75	2.00	2.81
117K8	25	8	8, 4, 2, 1, ½	8	2.81	0.6	3.25	1.75	2.00	2.81
117K16	25	16	16, 8, 4, 2, 1	8	3.13	1.5	3.69	2.00	2.31	3.13
117K32	25	32	32, 16, 8, 4, 2	8	3.56	2.3	4.03	2.25	2.63	3.56



MATCHING AUTO 25V OR 70V LINE AUDIO TRANSFORMERS

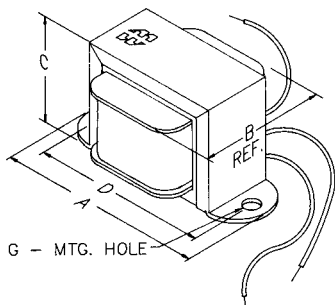


Figure 1

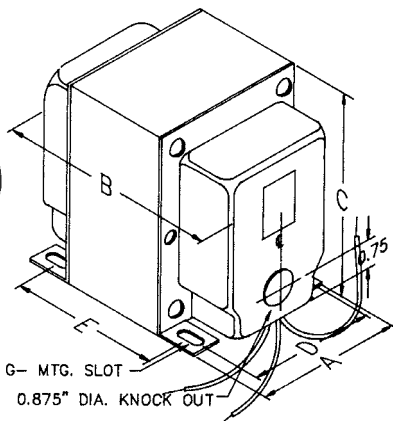
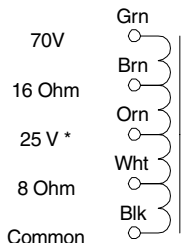


Figure 2

- Suitable for driving from solid state amplifiers where isolated windings are not required or can be used with our "Classic" 1600 tube output transformers to provide a 25V or 70V line output.
- 8 or 16 ohm input, 25V or 70V line output.
- Frequency response 50 Hz. to 10 Khz. at full ratings
- Leads 6" long minimum
- Can be reversed for operation at high power speaker locations.
- For speaker matching from older "classic" equipment check out our 119DA matching transformer.



* 25V tap on 119Y30 & 119Y60

Part No.	Max Output Watts	Line Output	Mtg. Type	Mtg. Centers	Mtg. Hole/Slot G	Wt. Lbs.	Dwg. Fig.	Dimensions (Inches)				
								A	B	C	D	E
119Y30	30	70 & 25V	Bracket	3.56	0.187	2.4	1	4.03	2.25	2.63	3.56	-
119Y60	60	70 & 25V	X Mtg.	2.00 x 2.19	.203 x .38	3.3	2	2.50	3.25	3.06	2.00	2.19
119Y100	100	70V only	X Mtg.	2.50 x 2.19	.203 x .38	4.7	2	3.13	3.50	3.81	2.50	2.19
119Y250	250	70V only	X Mtg.	2.50 x 2.94	.203 x .38	6.7	2	3.13	4.25	3.81	2.50	2.94



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Tube Audio



Why the fascination with tube ("valve") designs?

The fast answer?....it's in our company roots!

Amplifiers all distort to some extent. This distortion - which differs between tube & solid state amplifiers, has long been debated by musicians & audiophiles. Many believe that the "warm" tube audio sound is more pleasant to the human ear.

When there was no choice but tube amplification – we were building magnetics (power & filament transformers, filter chokes & matching transformers) for these applications. In fact, we produced a complete radio receiver (the Hammond "Model 12") in 1923 and a line of audio amplifiers (utilizing our transformers throughout) over 80 years ago!

Solid state circuitry became the major design choice by the 1960's. We brought many new magnetic designs out to meet this demand too – but - we continued improving our tube related transformer lines as well. There was always a demand as musicians and "hard core" audiophiles never abandoned the tube designs.

Lately, due to the ready availability of tubes from Eastern European & Chinese companies, a resurgence of tube designs & restoration interest has occurred. We continue to add more products and meet the requirements of these customers.

To celebrate our long history with tube designs & radio we continue to support not only customer product demand but also our fascination with the technology through the Hammond Museum of Radio. The Museum got it's start when museum founder Fred Hammond began collecting early radio and wireless artifacts at the age of 16 (1928). The collection grew over the years to include hundreds of receivers & transmitters dating back to the spark era. It soon became a federally registered museum and is now one of North America's premier wireless museums. For more information please visit the web site listed below.

Tube Audio



Hammond Museum of Radio

www.hammondmuseumofradio.org



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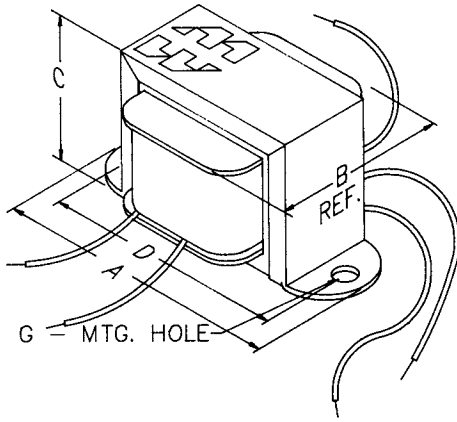
EUROPE

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AUSTRALIA

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Tube Driver - Interstage (124 Series)



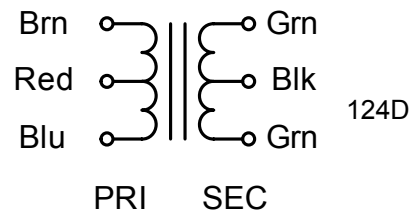
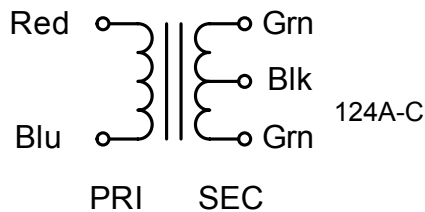
TUBE DRIVER - INTERSTAGE TRANSFORMERS

- Designed for general purpose or replacement use in single ended or phase inverter tube driver circuits.
- Open style with minimum 5" long primary leads
- Minimum frequency response 150 Hz. - 15 Khz (+/- 1 db max. ref. 1 Khz.) at full rated power.
- Part number 124B is the same as the 124A except for 49% Nickel laminations for greater fidelity.
- Part number 124C is the COIL ONLY (for those experimenters who want to use their own "iron").

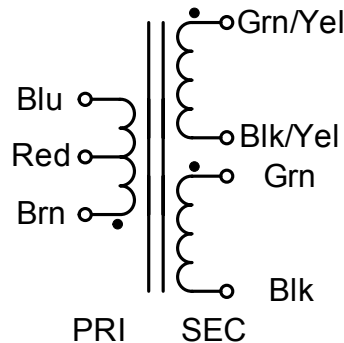
Part No.	Audio Watts	Primary		Secondary		Laminations	Dimensions (Inches)				
		Impedance (Ohms)	D.C. Resistance (Ohms)	Impedance (Ohms)	D.C. Resistance (Ohms)		A	B	C	D	G Mtg. Hole
124A	5	10K	403	90K C.T.	1,524	Grain Oriented Steel	2.38	1.35	1.43	2.00	0.187
124B	5	10K	403	90K C.T.	1,500	49% Nickel	2.38	1.35	1.43	2.00	0.187
124C	5	10K	403	90K C.T.	1,524	None (coil only)	-	-	-	-	-
124D	5	7K C.T.	454	15.8K C.T.	681	Grain Oriented Steel	2.81	1.46	1.68	2.38	0.187
124E	5	15K C.T.	728	33.8K/135K C.T.	3,880	Grain Oriented Steel	2.88	1.74	2.37	2.38	0.187

Tube Audio

Schematic & Hook Up Data (124A-D)



Schematic & Hook Up Data (124E Only)



- For **Parallel** connected operation (33.8K Ohm Secondary):
Connect the GRN/YEL wire to the GRN wire and the BLK/YEL wire to the BLK wire.
- For **Series** connected operation (135K Ohm Secondary):
Connect the BLK/YEL wire to the GRN (this becomes the center tap) GRN/YEL and BLK wires are the output.

EUROPE

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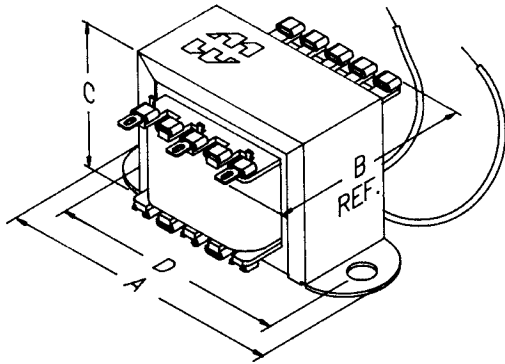
CANADA

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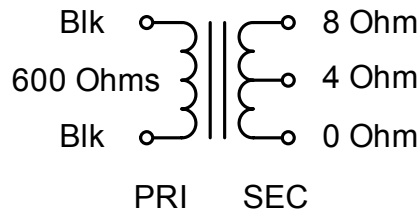


SPEAKER MATCHING TRANSFORMER

- Audio isolation unit (ie...separate primary and secondary)
- Built in response to requests from the "Collins Collectors Association" to match "classic" high impedance audio outputs to modern low impedance speakers.
- Unit can also be used reverse connected to match "classic" high impedance speakers with newer equipment.
- Primary: 600 Ohm (with 6" wire leads)
- Secondary: 8 Ohm with 4 Ohm center tap (with solder lugs)
- Power: Rated at 12 watts
- Excellent frequency response: 30 Hz. - 20 Khz. (+/- 1 db @ Full Power - 1 Khz. Reference)
- Weight: 1 pound, 4 oz.
- Mounting: 2 hole bracket mount - on 2 13/16" mounting hole centers.

Part No.	Dimensions (Inches)				
	A	B	C	D	G Mtg. Hole
119DA	3.28	2.35	2.00	2.81	0.187

Schematic & Hook Up Data



Tube Audio

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Hammond Tube Output Transformers (Overview)

Audiophile Tube Output Transformers

Whether you are into the clean, free spirited "Single Ended" tube output or high efficiency, high power, "Push-Pull" audio, we have the output transformer for you.

We have been producing tube output transformers continuously for over 75 years, constantly improving and tweaking their performance. The output transformer is one of the most critical components in a audiophile amplifier. These excellent designs have survived the years and have enjoyed a recent resurgence along with the tube industry.

Please note, our specifications are at FULL OUTPUT power. Many "newbies" to the industry use frequency specification data at milliwatt ranges to inflate their claims. Check carefully when comparing manufacturers specs. We use -1db roll off points to ensure a typical HAMMOND conservative rating, again at FULL OUTPUT POWER.

To ensure a long life and maximum versatility these units are built to and tested at a Hi-Pot rating of 2,000 VAC RMS!!!!

Our transformers are of EI laminated design, we do not offer toroidal designs due to their inability to handle tube imbalance and high manufacturing cost.

More importantly, our designs are "ear tested". After a new design has passed our extensive testing, it's got to sound good too, before we put it on the market! From Bach to rock & three watts to 280 watts, we have your output transformer IN STOCK.

Single Ended Tube Output Transformers

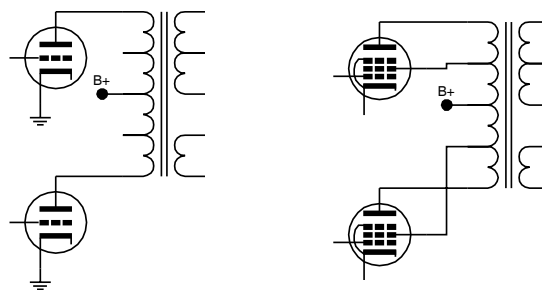


These high quality units are designed for maximum versatility. Designed for both triode or pentode operation - Class A operation. All units include an optional use - 40% screen tap (a proven pentode "sweet spot") for "Ultra-Linear" operation. The ratings shown are at full power and rated plate current. Available in 25-75 watt models (our 1627-1642 series)

The lamination iron used is a high quality (M6) grade, silicon steel, for low loss and the lowest possible distortion at bass frequencies. A factory set core cap ensures against core saturation at full ratings. All single-ended output models include multiple interleaved windings to maximize high frequency response. These windings are machine wound with high quality copper wire.

If you do not need hi-fi ratings or are restoring older equipment using single ended audio output - refer to our economical 125SE series optimized for single ended - universal - general purpose use. Available in 3-25 watt models.

Push Pull Tube Output Transformers



These high quality units are also designed for maximum versatility. All units include an optional use - 40% screen tap (a proven pentode "sweet spot") for "Ultra-Linear" operation. They are designed to be used with most all power output tubes available today. The ratings shown are at full power and rated plate current. We have also added an epoxy potted series to our line for the ultimate in tube output transformers. Available in 10-280 watt models (our 1608-1650 series).

If you do not need hi-fi ratings or are restoring older equipment using push-pull audio output - refer to our economical 125 series optimized for push-pull - universal - general purpose use. Available in 3-15 watt models.

HAMMOND Interleaved Windings

The reason for our sparkling high frequency performance is the use of interleaved windings between the primary and secondary. The number of interleaved windings is optimized to the size (wattage) of the unit. All high fidelity output models (both single ended and push-pull) include multiple interleaved windings to maximize high frequency response. These windings are machine wound with high quality copper wire. The multiple interleaved secondaries are wound (series or parallel connecting them) to match to 4, 8 or 16 ohm load impedances. The primaries of each model (including the "single-ended" series) include Ultra-Linear taps at the 40% point.

Tube Output Transformers - Aesthetics

We have also paid close attention to the "look" of our units as they are as much on display in some designs as the tubes themselves. Our high fidelity units are manufactured with high grade laminations (M6) and machine wound with high quality copper wire. The core is varnished and oven baked to ensure quiet operation - even at high ambient temperatures. Then the end bells are bolted on. These end bells are finished in a tough, low gloss, black powder paint finish to resist scratching.



CANADA

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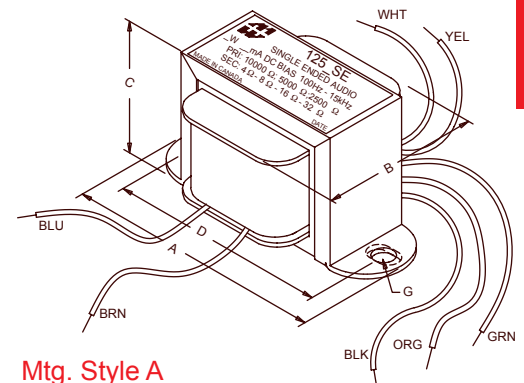
Single Ended Output - General Purpose (125 "SE" Series)



UNIVERSAL - SINGLE ENDED "CLASSIC" TUBE OUTPUT TRANSFORMERS

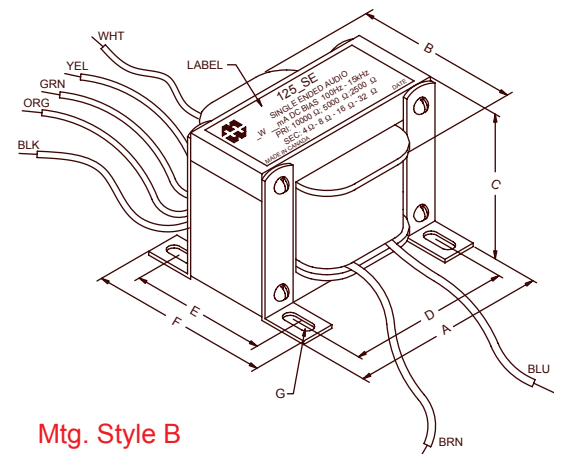
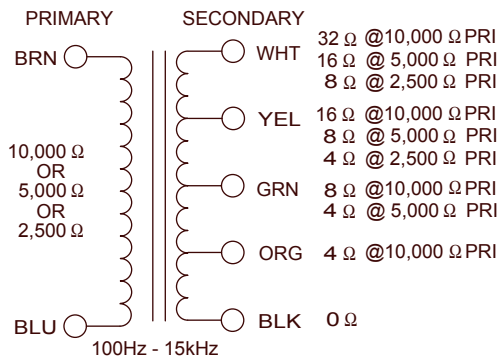
- Designed for general purpose or replacement use (not Hi-Fi) in single ended tube output circuits.
- Frequency response: 100 Hz. - 15 KHz (+/- 1db max. ref. 1 KHz).
- Open style with minimum 12" long primary and secondary leads.
- All sizes use butt stacked cores (using 29M6 steel) with an air gap, to reduce D.C. core saturation.
- Primary impedance range from 2,500 to 10,000 Ohms.
- Secondary impedance range from 4 to 32 Ohms.
- For full frequency response (20 Hz. to 20 KHz.) single ended output transformers - see our 1627-1642 Series.

Part No.	Audio Watts	Max D.C. Bias (ma)	Mtg. Style	Dimensions (Inches)						Wt. Lbs.
				A	B	C	D	E	G Mtg. Hole	
125ASE	3	25	A	2.81	1.35	1.69	2.38	-	0.187	0.5
125BSE	5	45	A	3.25	1.63	2.00	2.81	-	0.187	1.1
125CSE	8	60	A	3.69	1.86	2.31	3.13	-	0.187	1.3
125DSE	10	70	A	4.00	2.10	2.63	3.56	-	0.187	2
125ESE	15	80	A	4.50	2.36	2.94	4.00	-	0.187	3
125FSE	20	90	B	3.76	2.52	3.15	3.13	2.25	0.2 x 0.38	4.5
125GSE	25	100	B	4.15	2.88	3.46	3.45	2.50	0.2 x 0.38	6



Mtg. Style A

Schematic & Hook Up Data



Mtg. Style B

Tube Audio

EUROPE

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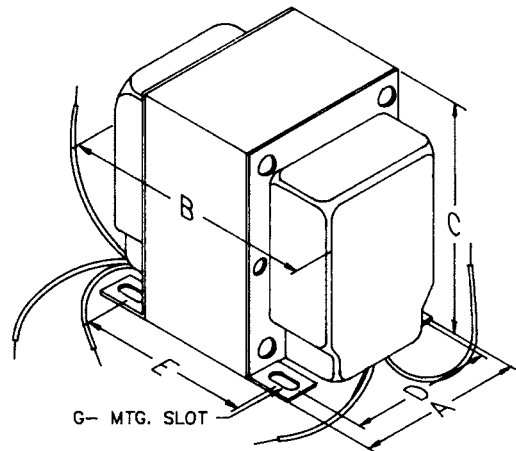
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Single Ended **Audiophile - Tube Output (1627-1642 Series)**



SINGLE-ENDED "CLASSIC" TUBE OUTPUT - ULTRA-LINEAR

Tube Audio

- "Over designed" for high-fidelity, single ended, Class-A, tube output circuits (triode, tetrode or pentode tubes).
- Enclosed (shielded), four slot, chassis Type "X" mounting.
- Frequency response at least 20 Hz. to 20 KHz. at full rated power (+/- 1 db max., ref. 1 KHz.)
- Units are designed to provide ample "headroom" at bass frequencies (note the weight of each transformer).
- All models have a secondary tapped for 4, 8 or 16 ohm outputs.
- Insulated flexible leads 8" min.
- For maximum versatility, all units (except the 1642SE & 1638SEA) include a 40% screen tap for Ultra-Linear, tetrode/pentode operation (if desired).
- The 1642SE & 1638SEA do NOT include a screen tap as they were designed principally for high impedance triode tubes.
- High quality laminations, (M6) grain oriented silicon steel.
- Core is gapped to reduce core saturation in Class-A, tube amplifier circuits.
- For general purpose or replacement use in single ended, tube output circuits see our 125 "SE" series.

Part Number	Audio Watts	Primary			Ultra-Linear 40% Primary Tap	Hipot Test (VRMS)	Dimensions (Inches)						Wt. Lbs.
		Impedance	Max. DC Bias	Inductance Henrys			A	B	C	D	E	G Slot	
1640SEA	30	1,250	200 ma.	14	Yes	2,000	3.75	4.95	4.56	3.00	3.90	.203 x .375	11
1627SEA	30	2,500	160 ma.	20	Yes	2,000	3.75	4.50	4.56	3.00	3.13	.203 x .375	11
1630SEA	30	3,500	135 ma.	42	Yes	2,000	3.75	4.98	4.65	3.00	3.90	.203 x .375	11
1628SEA	30	5,000	120 ma.	48	Yes	2,000	3.75	4.50	4.56	3.00	3.13	.203 x .375	11
1642SE	75	5,000	300 ma.	53	No	3,500	4.38	7.50	5.25	3.50	5.88	.203 x .375	28
1629SEA	30	6,500	100 ma.	55	Yes	2,000	3.75	4.50	4.56	3.00	3.88	.203 x .375	11
1638SEA	30	10,000	90 ma.	88	No	2,000	3.75	4.50	4.56	3.00	3.13	.203 x .375	11



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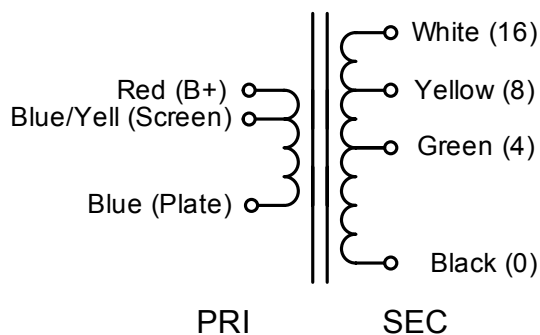
Single Ended *Audiophile - Tube Output (1627-1642 Series)*

Suggested Tube Types

Part No.	Triodes	Pentodes
1640SEA	Parallel - 2A3, 6A3, 6B4G, 300B, 572B, 811A	Parallel - 6550, 6CA7
1627SEA	2A3, 6A3, 6B4G, 300B	6CA7, 6L6, 807, 5881, 6550, Parallel - 6AQ5, 6V6, EL84
1630SEA	2A3, 6A3, 6B4G, 300B	6CA7, 6L6, 807, 5881, 6550, Parallel - 6AQ5, 6V6, EL84
1628SEA	211, 300B, 572B, 811A	6AQ5, 6V6, 6L6, 807, 5881, 6550, EL84
1642SE	Parallel - 211, 572, 811A, 845	-
1629SEA	211, 811A, 572B, 845	6AQ5, 6V6, 6L6, 807, 5881, 6550, EL84
1638SEA	211, 845	-

Note: The above examples of possible combinations are to help you narrow down the choices of transformers for your favorite tube types. How you operate the tubes (ultra-linear, bias, plate voltage, operating points etc.) will change optimum plate load impedance. Only a few of the most popular tubes are shown. A tube manual or tube manufacturer's technical data sheets should be consulted first, before making a decision on a proper output transformer.

Transformer Schematic



Notes:

- The **1642SE** and **1638SEA** do not include a primary screen tap (as they are designed for triode applications).
- Red wire connects to B+
- Blue/Yell wire connects to screen (optional use)
- Blue wire connects to tube plate

Tube Audio

EUROPE

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AUSTRALIA

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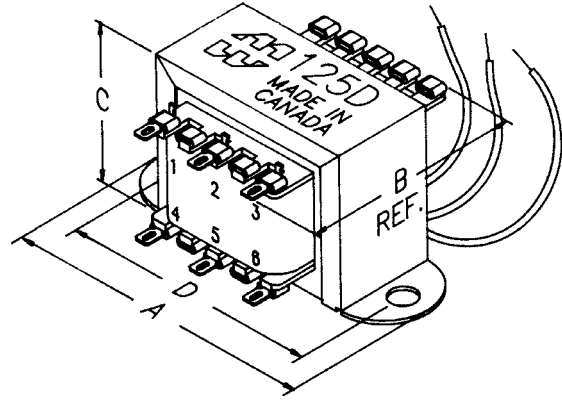
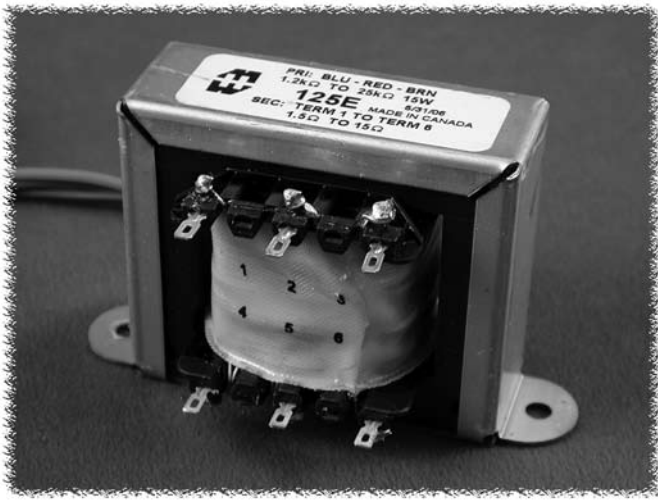
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Push-Pull Output - General Purpose (125A-E Series)



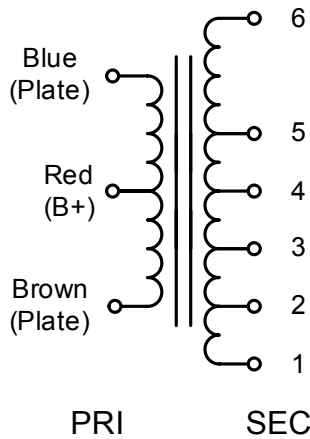
UNIVERSAL PUSH-PULL "CLASSIC" TUBE OUTPUT TRANSFORMERS

- Designed for general purpose or replacement use in push-pull tube output circuits.
- For single ended use, see our 125 SE series - optimized for single ended tube output circuits.
- Frequency response: 150 Hz. - 15 KHz (+/- 1db max. ref. 1 KHz)
- Open style with minimum 5" long primary leads, secondary solder lugs for convenient secondary connections.
- Tables provided with each transformer listing 90 pre-calculated impedance ratios.
- Primary impedances from 1,200 to 25,000 Ohms and secondary impedances from 1.5 to 15 Ohms (see chart below).

Tube Audio

Part No.	Audio Watts	Max D.C. Bias (ma)	Primary Inductance Henrys	Dimensions (Inches)					Wt. Lbs.
				A	B	C	D	G Mtg. Hole	
125A	3	25	14.94	2.06	1.25	1.19	1.75	0.187	0.19
125B	5	45	8.97	2.38	1.38	1.38	2.00	0.187	0.3
125C	8	60	5.60	2.81	1.50	1.69	2.38	0.187	0.5
125D	10	70	4.48	3.25	1.75	2.00	2.81	0.187	1
125E	15	80	2.99	3.69	2.00	2.31	3.13	0.187	1.5

Schematic & Hook Up Data



Connect Speaker to (Sec. Lugs)	Voice Coil Impedance (Ohms)							
	1.5	2	3.2	4	6	8	12	15
	Resulting Total Primary Impedance (Blue Wire to Brown Wire)							
1 & 2	27K	-	-	-	-	-	-	-
2 & 3	18K	24K	-	-	-	-	-	-
3 & 4	16.5K	22K	-	-	-	-	-	-
4 & 5	10K	13.5K	21.6K	27K	-	-	-	-
5 & 6	8.5K	11K	18K	22K	-	-	-	-
1 & 3	5.4K	7.2K	11.5K	15K	21.6K	-	-	-
2 & 4	4.2K	5.6K	9K	11.2K	16.8K	22.5K	-	-
3 & 5	3.3K	4.4K	7K	8.8K	13.2K	17.6K	26.4K	-
4 & 6	2.4K	3.2K	5.1K	6.4K	9.6K	12.8K	19.2K	24K
1 & 4	2.15K	2.9K	4.6K	5.8K	8.7K	11.6K	17.4K	21.5K
2 & 5	1.55K	2.05K	3.3K	4.1K	6.15K	8.2K	12.3K	15.5K
3 & 6	1.3K	1.7K	2.7K	3.4K	5.1K	6.8K	10.2K	12.8K
1 & 5	-	1.4K	2.2K	2.8K	4.2K	5.6K	8.4K	10.2K
2 & 6	-	-	1.7K	2.1K	3.15K	4.2K	6.3K	8K
1 & 6	-	-	1.2K	1.5K	2.3K	3.0K	4.5K	5.6K



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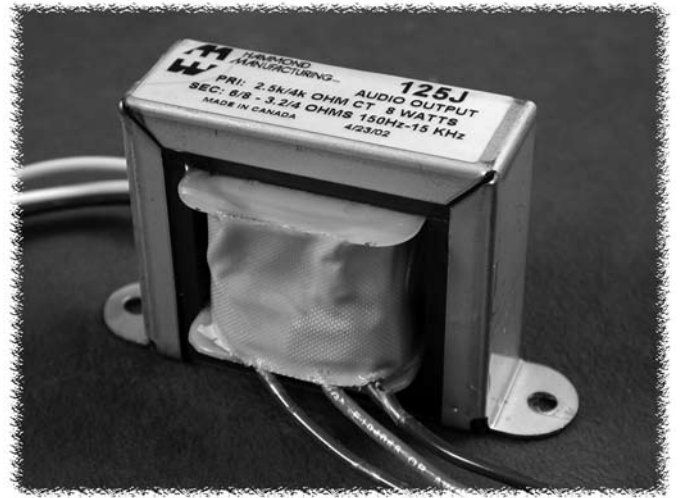
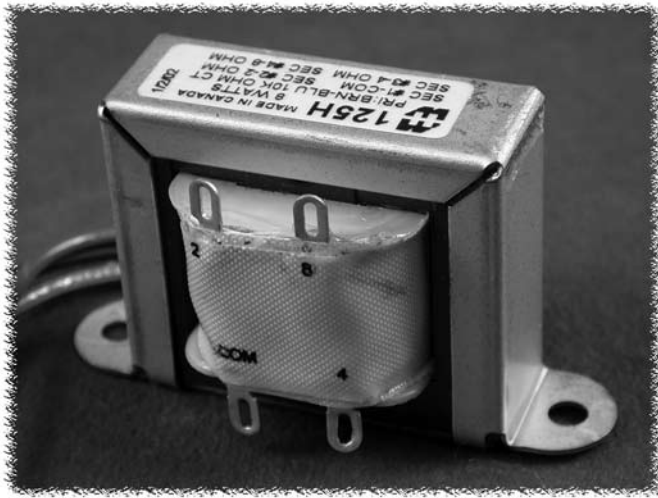
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EUROPE
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Push-Pull Output - General Purpose (125H-J Series)

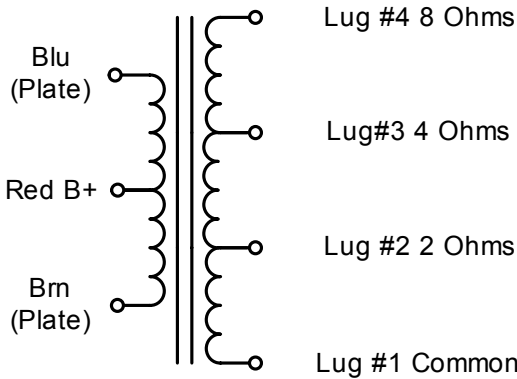


MULTIPLE IMPEDANCE - 8 WATT "CLASSIC" TUBE OUTPUT TRANSFORMERS

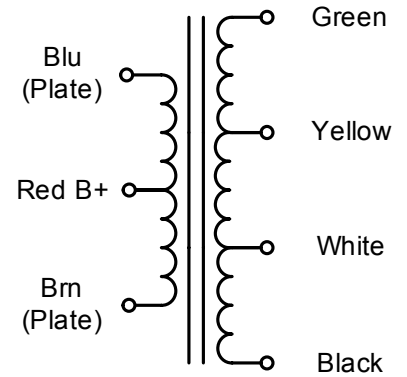
- Designed for general purpose or replacement use in push-pull tube output circuits.
- Frequency response: 150 Hz. - 15 KHz (+/- 1db max.- ref. 1 KHz).
- 125H - open style with minimum 5" long primary leads, secondary solder lugs for convenient secondary connections.
- 125J - open style with minimum 10" long primary & secondary leads.

Part No.	Audio Watts	Primary Impedance (Ohms)	Secondary Impedance (Ohms)	Primary Inductance Henrys	Dimensions (Inches)					Wt. Lbs.
					A	B	C	D	G Mtg. Hole	
125H	8	10K	2, 4 or 8	5.6	2.81	1.40	1.63	2.38	0.187	0.55
125J	8	2.5K or 4K	6/8 or 3.2/4	5.6	3.25	1.50	1.94	2.81	0.187	1

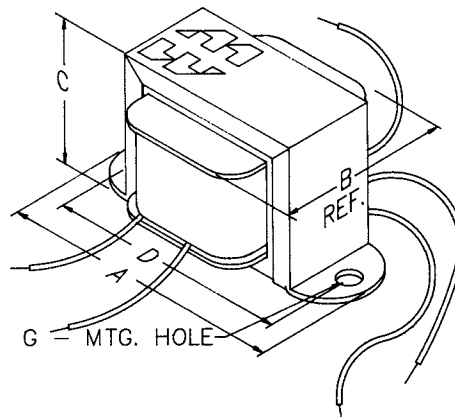
Schematic & Hook Up Data



PRI SEC
125H



PRI SEC
125J



Pri. Impedance Plate to Plate Brown to Blue (Ohms)	Sec. Impedance (Ohms)	Use Sec. Lead Connections
4,000 C.T.	6/8	WHT - GRN
4,000 C.T.	3.2/4	WHT - YEL
2,500 C.T.	6/8	BLK - GRN
2,500 C.T.	3.2/4	BLK - YEL

Tube Audio

EUROPE

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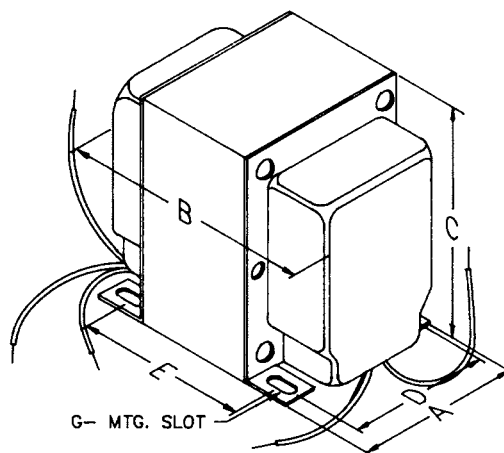
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Push - Pull **Audiophile - Output (1608-1650 Series)**



PUSH - PULL "CLASSIC" TUBE TYPE - ULTRA-LINEAR OUTPUT TRANSFORMERS

Tube Audio

- Designed for push-pull tube output circuits.
- Enclosed (shielded), 4 slot, above chassis Type "X" mounting.
- Frequency response 30 Hz. to 30 KHz. at full rated power (+/- 1 db max. - ref. 1 KHz) minimum. Except the 1650E (70 Hz. to 30 KHz. +/- 1 db max. - ref. 1 KHz.)
- Insulated flexible leads 8" min.
- Due to the unique interleaving of the windings BOTH secondary windings must be engaged to meet specifications (see hook-up schematics).
- Negative feedback circuits can be utilized by connecting to the Green & Black wires - 4 Ohm secondary (this winding is always engaged on all load configurations).
- All units include 40% screen taps for Ultra-Linear operation (if desired).
- Typical applications - Push-Pull: triode, Ultra-Linear pentode, and tetrode connected audio output.
- For our NEW improved "easy hook-up" secondary series - see our 1608-1650 "A" series.
- For the "ultimate" in Push-Pull output see our line of epoxy potted output transformers (1650 potted series).

Part Number	Audio Watts (RMS)	Primary Impedance	Max. DC Per Side	Secondary Impedance	Dimensions (Inches)						Wt. Lbs.
					A	B	C	D	E +/- 1/16"	G Slot	
1608	10	8,000 C.T.	100 ma.	4-8-16	2.50	2.75	3.06	2.00	1.69	.203 x .38	2.5
1609	10	10,000 C.T.	100 ma.	4-8-16	2.50	2.75	3.06	2.00	1.69	.203 x .38	2.5
1615	15	5,000 C.T.	100 ma.	4-8-16	2.50	3.25	3.06	2.00	2.19	.203 x .38	3.25
1620	20	6,600 C.T.	158 ma.	4-8-16	2.50	3.50	3.06	2.00	2.44	.203 x .38	3.5
1650F	25	7,600 C.T.	128 ma.	4-8-16	2.50	3.50	3.06	2.00	2.44	.203 x .38	4
1645	30	5,000 C.T.	128 ma.	4-8-16-70 V	2.50	3.75	3.06	2.00	2.69	.203 x .38	4.5
1650H	40	6,600 C.T.	200 ma.	4-8-16	3.13	4.00	3.81	2.50	2.69	.203 x .38	6.5
1650K	50	3,400 C.T.	318 ma.	4-8-16	3.13	4.00	3.81	2.50	2.69	.203 x .38	7
1650N	60	4,300 C.T.	318 ma.	4-8-16	3.13	4.25	3.81	2.50	2.94	.203 x .38	8
1650P	60	6,600 C.T.	200 ma.	4-8-16	3.13	4.25	3.81	2.50	2.94	.203 x .38	8
1650R	100	5,000 C.T.	318 ma.	4-8-16	3.75	4.25	4.56	3.00	3.06	.203 x .38	12
1650T	120	1,900 C.T.	403 ma.	4-8-16	3.75	4.50	4.56	3.00	3.31	.203 x .38	14
1650W	280	1,900 C.T.	806 ma.	4-8-16	4.38	7.50	5.25	3.50	5.88	.203 x .38	28



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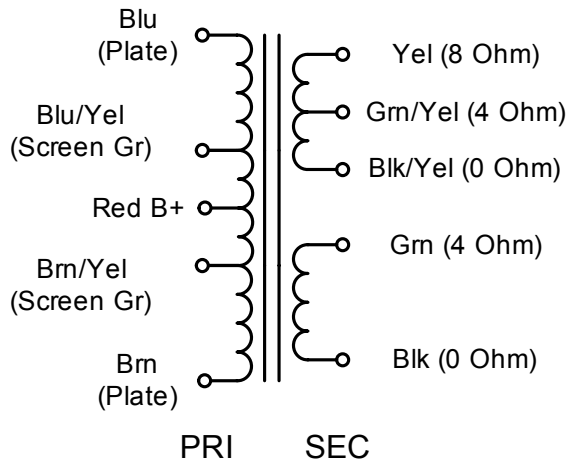
Push - Pull Audiophile - Output (1608-1650 Series)

Suggested Tube Types

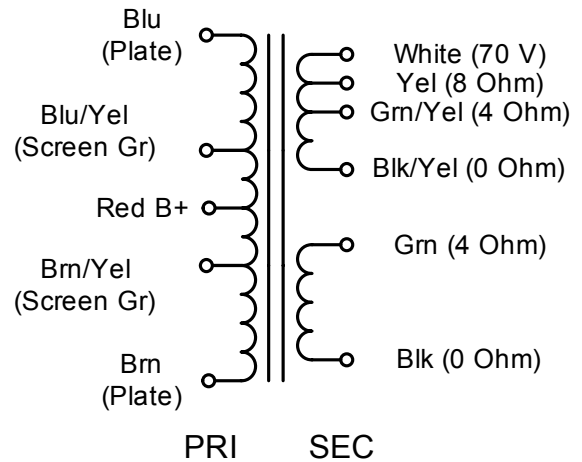
Part Number	Audio Watts (RMS)	Primary Impedance	Operation	Tube Types
1608	10	8,000 C.T.	Push-Pull (2 Tubes)	6AQ5, 6V6, 6BQ5, EL84, SV83
1609	10	10,000 C.T.	Push-Pull (2 Tubes)	6AQ5, 6V6, 6BQ5, EL84, SV83
1615	15	5,000 C.T.	Push-Pull (2 Tubes)	2A3, 6A3, 6AQ5, 6B4G, 6L6, 6V6
1620	20	6,600 C.T.	Push-Pull (2 Tubes)	6AQ5, 6L6, 6V6
1650F	25	7,600 C.T.	Push-Pull (2 Tubes)	6L6GC, 6V6, 807, 5881, EL34
1645	30	5,000 C.T.	Push-Pull (2 Tubes)	6L6GC, 6V6, 807, 5881, EL34
1650H	40	6,600 C.T.	Push-Pull (2 Tubes)	6L6GC, 807, 5881, EL34
1650K	50	3,400 C.T.	Push-Pull Par. (4 Tubes)	6L6GC, 807, 5881, EL34, 6146B, 6550B
1650N	60	4,300 C.T.	Push-Pull Par. (2 or 4 Tubes)	6L6GC, 807, 5881, EL34, 6146B, 6550B, KT88
1650P	60	6,600 C.T.	Push-Pull (2 Tubes)	6L6GC, 807, 5881, EL34, 6146B, 6550B, KT88
1650R	100	5,000 C.T.	Push-Pull Par. (2 or 4 Tubes)	807, 5881, EL34, 6146B, 6550B, KT88
1650T	120	1,900 C.T.	Push-Pull Par. (4 or 6 Tubes)	6L6GC, 5881, EL34, 6550B, KT88
1650W	280	1,900 C.T.	Push-Pull Par. (6 or 8 Tubes)	6L6GC, 5881, EL34, 6550B, KT88

Note: The above examples of possible combinations are to help you narrow down the choices of transformers for your favorite tube types. How you operate the tubes (push-pull, push-pull parallel, ultra-linear, class, B+, bias, operating points, etc.) will change optimum plate to plate load impedance. Only a few of the most popular tubes are shown. As more tubes become available we will add them to the list. A tube manual or tube manufacturer's technical data sheets should be consulted first, before making a decision on a proper output transformer.

Schematic - All Parts Except 1645

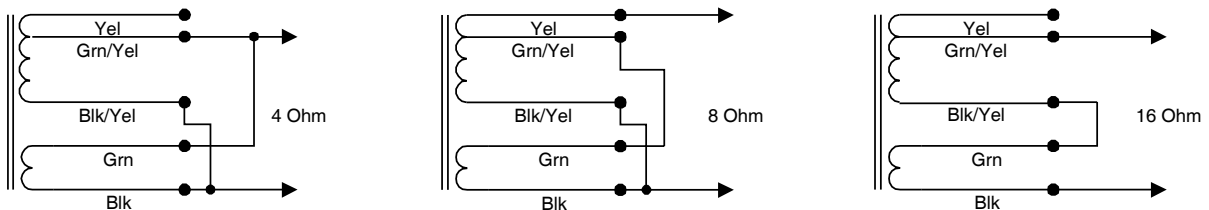


Schematic - 1645 Only



Note: To hook up 4/8/16 ohm secondary loads, see "Secondary Hook-Up Data" below. To hook up secondary to 70V loads, jumper Blk/Yel wire to Grn wire. Connect load to Blk and White wires.

Secondary Hook-Up Data



NOTE: Due to the unique interleaving of the windings BOTH secondary windings must be engaged (as shown) to meet specifications

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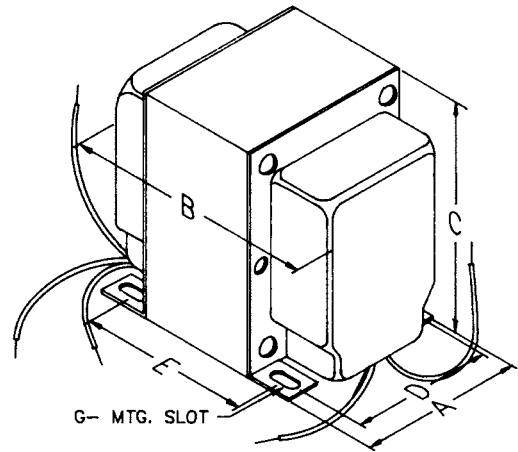
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Push - Pull Audiophile - Output (1608-1650 "A" Series)



PUSH - PULL "EASY HOOK-UP" "CLASSIC" TUBE TYPE - ULTRA-LINEAR OUTPUT TRANSFORMERS

- NEW & Improved version of our 1608-1650 series output transformers (re-designed secondaries for easy hook-up of secondary loads)
- Designed for push-pull tube output circuits.
- Enclosed (shielded), 4 slot, above chassis Type "X" mounting.
- Frequency response 30 Hz. to 30 Khz. at full rated power (+/- 1 db max. - ref. 1 Khz) minimum. Except the 1650E (70 Hz. to 30 Khz. +/- 1 db max. - ref. 1 Khz.)
- Insulated flexible leads 8" min.
- All units (except the 1650G) include 40% screen taps for Ultra-Linear operation (if desired).
- Typical applications - Push-Pull: triode, Ultra-Linear pentode, and tetrode connected audio output. The 1650G does NOT have primary screen taps and will not support "Ultra-Linear" applications.

Tube Audio

Part Number	Audio Watts (RMS)	Primary Impedance	Max. DC Per Side	Secondary Impedance	Dimensions (Inches)						Wt. Lbs.
					A	B	C	D	E +/- 1/16"	G Slot	
1608A	10	8,000 C.T.	100 ma.	4-8-16	2.50	2.75	3.06	2.00	1.69	.203 x .38	2.5
1609A	10	10,000 C.T.	100 ma.	4-8-16	2.50	2.75	3.06	2.00	1.69	.203 x .38	2.5
1615A	15	5,000 C.T.	100 ma.	4-8-16	2.50	3.25	3.06	2.00	2.19	.203 x .38	3.25
1650E	15	8,000 C.T.	100 ma.	4-8-16	2.50	3.25	3.06	2.00	2.50	.203 x .38	3.5
1620A	20	6,600 C.T.	158 ma.	4-8-16	2.50	3.50	3.06	2.00	2.44	.203 x .38	3.5
1650FA	25	7,600 C.T.	128 ma.	4-8-16	2.50	3.50	3.06	2.00	2.44	.203 x .38	4
1645A	30	5,000 C.T.	128 ma.	4-8-16-70 V	2.50	3.75	3.06	2.00	2.69	.203 x .38	4.5
1650G	35	6,600 C.T.	200 ma.	3.5/8/16/250/500	3.13	3.75	3.81	2.50	2.25	.203 x .38	5
1650HA	40	6,600 C.T.	200 ma.	4-8-16	3.13	4.00	3.81	2.50	2.69	.203 x .38	6.5
1650KA	50	3,400 C.T.	318 ma.	4-8-16	3.13	4.00	3.81	2.50	2.69	.203 x .38	7
1650NA	60	4,300 C.T.	318 ma.	4-8-16	3.13	4.25	3.81	2.50	2.94	.203 x .38	8
1650PA	60	6,600 C.T.	200 ma.	4-8-16	3.13	4.25	3.81	2.50	2.94	.203 x .38	8
1650RA	100	5,000 C.T.	318 ma.	4-8-16	3.75	4.25	4.56	3.00	3.06	.203 x .38	12
1650TA	120	1,900 C.T.	403 ma.	4-8-16	3.75	4.50	4.56	3.00	3.31	.203 x .38	14
1650WA	280	1,900 C.T.	806 ma.	4-8-16	4.38	7.50	5.25	3.50	5.88	.203 x .38	28



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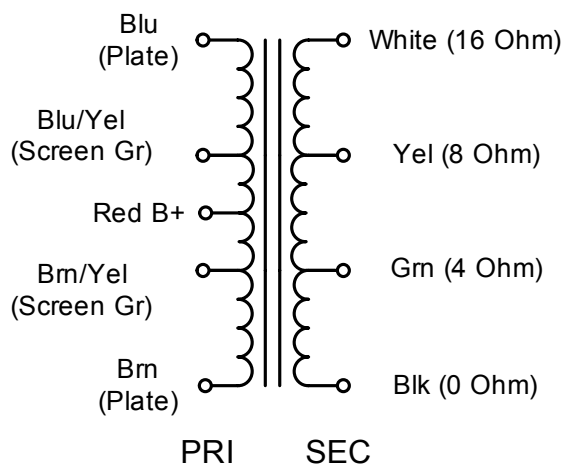
Push - Pull Audiophile - Output (1608-1650 "A" Series)

Suggested Tube Types

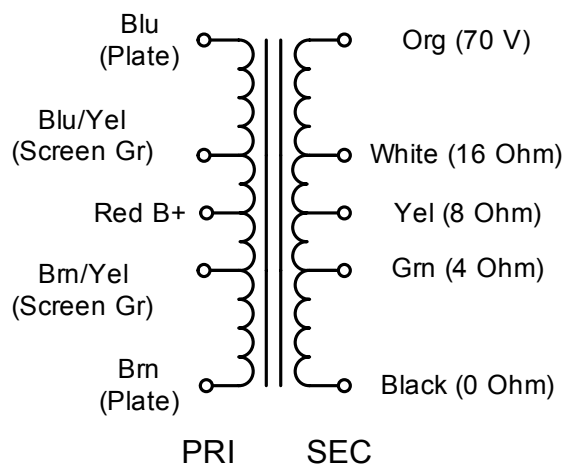
Part Number	Audio Watts (RMS)	Primary Impedance	Operation	Tube Types
1608A	10	8,000 C.T.	Push-Pull (2 Tubes)	6AQ5, 6V6, 6BQ5, EL84, SV83
1609A	10	10,000 C.T.	Push-Pull (2 Tubes)	6AQ5, 6V6, 6BQ5, EL84, SV83
1615A	15	5,000 C.T.	Push-Pull (2 Tubes)	2A3, 6A3, 6AQ5, 6B4G, 6L6, 6V6
1650E	15	8,000 C.T.	Push-Pull (2 Tubes)	6AQ5, 6V6, 6BQ5, EL84, SV83
1620A	20	6,600 C.T.	Push-Pull (2 Tubes)	6AQ5, 6L6, 6V6
1650FA	25	7,600 C.T.	Push-Pull (2 Tubes)	6L6GC, 6V6, 807, 5881, EL34
1645A	30	5,000 C.T.	Push-Pull (2 Tubes)	6L6GC, 6V6, 807, 5881, EL34
1650G	35	6,600 C.T.	Push-Pull (2 Tubes)	6L6GC, 807, 5881, EL34
1650HA	40	6,600 C.T.	Push-Pull (2 Tubes)	6L6GC, 807, 5881, EL34
1650KA	50	3,400 C.T.	Push-Pull Par. (4 Tubes)	6L6GC, 807, 5881, EL34, 6146B, 6550B
1650NA	60	4,300 C.T.	Push-Pull Par. (2 or 4 Tubes)	6L6GC, 807, 5881, EL34, 6146B, 6550B, KT88
1650PA	60	6,600 C.T.	Push-Pull (2 Tubes)	6L6GC, 807, 5881, EL34, 6146B, 6550B, KT88
1650RA	100	5,000 C.T.	Push-Pull Par. (2 or 4 Tubes)	807, 5881, EL34, 6146B, 6550B, KT88
1650TA	120	1,900 C.T.	Push-Pull Par. (4 or 6 Tubes)	6L6GC, 5881, EL34, 6550B, KT88
1650WA	280	1,900 C.T.	Push-Pull Par. (6 or 8 Tubes)	6L6GC, 5881, EL34, 6550B, KT88

Note: The above examples of possible combinations are to help you narrow down the choices of transformers for your favorite tube types. How you operate the tubes (push-pull, push-pull parallel, ultra-linear, class, B+, bias, operating points, etc.) will change optimum plate to plate load impedance. Only a few of the most popular tubes are shown. As more tubes become available we will add them to the list. A tube manual or tube manufacturer's technical data sheets should be consulted first, before making a decision on a proper output transformer.

Schematic All Parts Except 1645A, 1650E & 1650G

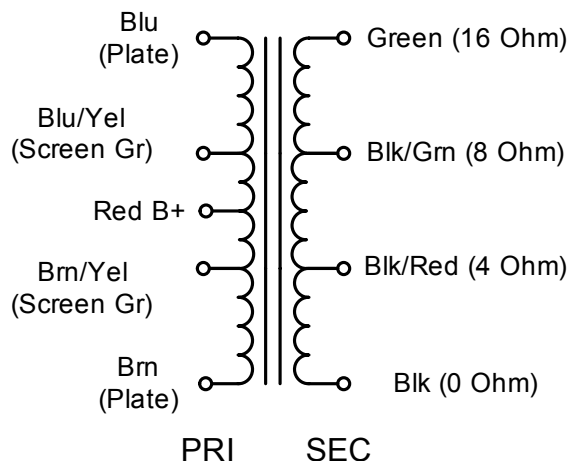


Schematic 1645A Only

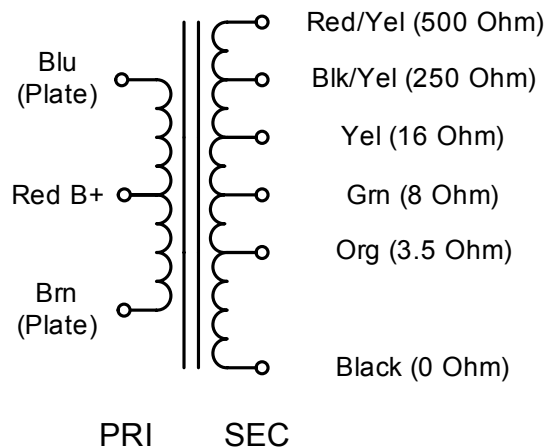


Tube Audio

Schematic - 1650E Only



Schematic - 1650G Only



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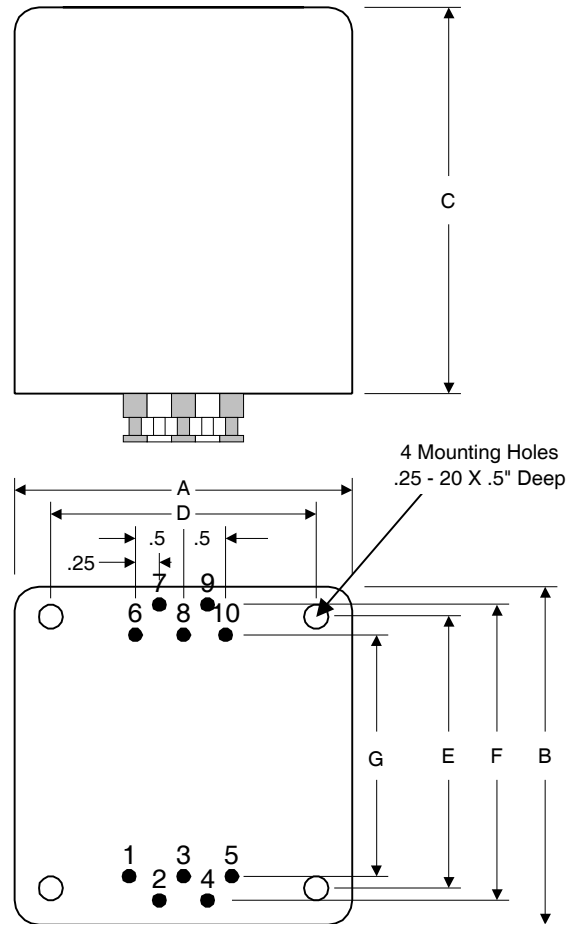
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Push - Pull Audiophile - Potted Output (1650 "P" Series)



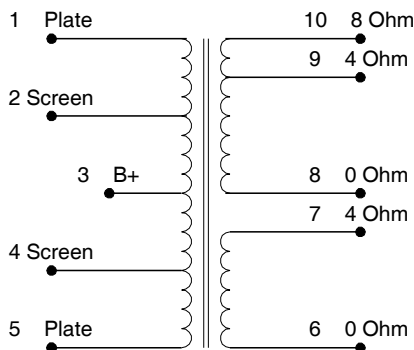
PUSH - PULL "CLASSIC" TUBE TYPE - ULTRA-LINEAR POTTED OUTPUT TRANSFORMERS

- Designed for push-pull tube output circuits.
- Enclosed in a drawn steel case, the transformer is completely potted in epoxy and painted in black powder paint to match our potted power transformers & potted chokes.
- Frequency response 30 Hz. to 30 KHz. at full rated power (+/- 1 db max. ref. 1 KHz) minimum.
- Lead connection is via 10 bottom mounted lugs.
- All units include 40% screen taps for Ultra-Linear operation (if desired).
- Typical applications - Push-Pull: triode, Ultra-Linear pentode, and tetrode connected audio output.

Tube Audio

Part No.	Audio Watts	Primary Impedance	Max DC Per Side	Secondary Impedance	Dimensions (Inches)							Wt. Lbs.
					A	B	C	D	E	F	G	
1650KP	50	3,400 C.T.	318 ma.	4/8/16	3.31	3.88	4.25	2.50	3.00	3.31	2.56	9
1650PP	60	6,600 C.T.	200 ma.	4/8/16	3.31	3.88	4.25	2.50	3.00	3.31	2.56	10
1650RP	100	5,000 C.T.	317 ma.	4/8/16	4.25	5.00	4.50	3.38	4.25	4.50	3.75	13

Schematic



Suggested Tube Types

Part No.	Audio Watts	Primary Impedance	Tube Types
1650KP	50	3,400 C.T.	6L6GC, 807, 5881, EL34, 6146B, 6550B
1650PP	60	6,600 C.T.	6L6GC, 807, 5881, EL34, 6146B, 6550B, KT88
1650RP	100	5,000 C.T.	807, 5881, EL34, 6146B, 6550B, KT88

Note: The above examples of possible combinations are to help you narrow down the choices of transformers for your favorite tube types. How you operate the tubes (push-pull, push-pull parallel, ultra-linear, class B+, bias, operating points, etc.) will change optimum plate to plate load impedance. Only a few of the most popular tubes are shown. As more tubes become available we will add them to the list. A tube manual or tube manufacturer's technical data sheets should be consulted first, before making a decision on a proper output transformer.



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Guitar Amp



Replacement - Tube Guitar Output (1750 Series)



TUBE GUITAR AMPLIFIER - OUTPUT TRANSFORMERS

- Designed for drop in replacement of original tube guitar amplifier output transformers.
- Physically, parts were designed to look similar to original factory units (where possible).
- Material used & design specs. were kept as close as possible to the original part to preserve the stock "tone".
- For individual photos of each part - visit our website: www.hammondmfg.com

Part No.	Primary (Ohms)	Secondary (Ohms)	Amplifier Type	Power (Watts)	Amplifier Manufacturer	Amplifier Model Names	Equivalent To Mfg's Part Number
1750A	22,800	8	Single Ended	3.5	Fender	Reverb Driver	125A20B & 022921
1750C	7,000	3.2	Single Ended	5	Fender	Champ, Vibro-Champ, Bronco	125A35A & 022905
1750E	8,000 C.T.	8	Push-Pull	15	Fender	Princeton Reverb, Tweed Deluxe	125A10B & 022913
1750F	6,950 C.T.	8	Push-Pull	15	Fender	Blues Junior	049969
1750H	6,600 C.T.	8	Push-Pull	20	Fender	Deluxe, Deluxe Reverb	125A1A & 022640
1750J	4,000 C.T.	4	Push-Pull	35	Fender	Pro-Reverb, Tremolux, Vibrolux	125A6A & 022848
1750K	4,000 C.T.	2	Push-Pull	50	Fender	Tweed Bassman, Super Reverb	125A9A & 022855
1750L	4,200 C.T.	4	Push-Pull	50	Fender	Bassman	125A13A & 022871
1750M	4,200 C.T.	2, 4, 8	Push-Pull	50	Fender	General Replacement	125A13A & 022871
1750W	2,000 C.T.	4	Push-Pull	100	Fender	Dual Showman, Twin Reverb	125A29A & 022889
1750N	3,200 C.T.	4, 8, 16	Push-Pull	50	Marshall	JMP, JCM 800	-
1750P	126, 500, 2,000	2, 4, 8, 16	Push-Pull	50	Marshall	JCM 900	-
1750Q	7,371 C.T.	4, 8, 16	Push-Pull	50	Marshall	JTM 45	-
1750U	1,700 C.T.	4, 8, 16	Push-Pull	100	Marshall	JMP, JCM 800	-
1750X	126, 500, 2,000	2, 4, 8, 16	Push-Pull	100	Marshall	JCM900	-
1750Y	6,300 C.T.	8	Push-Pull	15	VOX	AC15	-
1750V	4,000 C.T.	8, 16	Push-Pull	30	VOX	AC30 Vintage	-
1750T	4,000 C.T.	8, 16	Push-Pull	30	VOX	AC30 Reissue	-
1750G	3,800 C.T.	4, 8, 16	Push-Pull	50	Yorkville/Traynor	General Replacement	-
1750R	2,000 C.T.	4, 8, 16	Push-Pull	100	Yorkville/Traynor	General Replacement	-

DISCLAIMER: Hammond Mfg. is not affiliated with Fender Musical Instruments Corp., Marshall Amplification, Yorkville/Traynor or VOX Amplification companies. Amplifier model names Blues Junior, Bandmaster, Bandmaster Reverb, Bassman, Bassman 100, Bronco, Champ, Vibro-Champ, Deluxe, Deluxe Reverb, Dual Showman, Princeton Reverb, Pro Reverb, Reverb Driver, Super Reverb, Tremolux, Tweed Bassman, Tweed Deluxe, Twin Reverb, Twin Super, Vibrolux & Vibrolux Reverb are all trademarks of Fender Musical Instruments Corp.



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Replacement - Tube Guitar Power (290 Series)



TUBE GUITAR AMPLIFIER - POWER TRANSFORMERS

- Designed for drop in replacement of original tube guitar amplifier power supply transformers.
- Physically, parts were designed to look similar to original factory units (where possible).
- For individual photos of each part - visit our website: www.hammondmfg.com

Part No.	Primary	Amplifier Manufacturer	Amplifier Model Names	Equivalent To Mfg's Part Number
290AX 290AEX	120VAC 60 Hz. 240VAC 50 Hz.	Fender	Champ, Vibro Champ, Princeton, Princeton Reverb, Tweed Deluxe	125P1B & 022772
290BX 290BEX	120VAC 60 Hz. 240VAC 50 Hz.	Fender	Deluxe, Deluxe Reverb	125P23D & 041316
290CX 290CEX	120VAC 60 Hz. 240VAC 50 Hz.	Fender	Vibrolux, Vibrolux Reverb, Tremolux	125P26A & 022723
290DX 290DEX	120VAC 60 Hz. 240VAC 50 Hz.	Fender	Super Reverb, Pro Reverb, Bandmaster Reverb, Tweed Bassman	125P5D & 022798
290EX 290EEX	120VAC 60 Hz. 240VAC 50 Hz.	Fender	Bassman, Concert, Pro	125P7D & 022814
290FX 290FEX	120VAC 60 Hz. 240VAC 50 Hz.	Fender	Twin Reverb, Dual Showman, Bassman 100	125P34A & 022756
290GX	120/220/240VAC 50/60 Hz.	Marshall	JCM 800, JMP - 50 Watt	-
290HX	120/220/240VAC 50/60 Hz.	Marshall	JCM 800, JMP - 100 Watt	-
290KX	120/240VAC 50/60 Hz.	Marshall	JCM 900 - 50 Watt	-
290JX	120/240VAC 50/60 Hz.	Marshall	JCM 900 - 100 Watt	-
290LX	120/240VAC 50/60 Hz.	Marshall	JTM 45	-
290PX	120/240VAC 50/60 Hz.	VOX	AC15	-
290NX	100/120/220/230/240VAC 50/60 Hz.	VOX	AC30 Vintage	-
290MX	120/240VAC 50/60 Hz.	VOX	AC30 Reissue	-

DISCLAIMER: Hammond Mfg. is not affiliated with Fender Musical Instruments Corp., Marshall Amplification, Yorkville/Traynor or VOX Amplification companies. Amplifier model names Bandmaster Reverb, Bassman, Bassman 100, Champ, Vibro Champ, Concert, Deluxe, Deluxe Reverb, Dual Showman, Princeton, Princeton Reverb, Pro, Pro Reverb, Super Reverb, Tremolux, Tweed Bassman, Tweed Deluxe, Twin Reverb, Vibrolux & Vibrolux Reverb are all trademarks of Fender Musical Instruments Corp.

Guitar Amp

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Replacement - Tube Guitar Chokes (194 Series)



TUBE GUITAR AMPLIFIER - POWER TRANSFORMERS

- Designed for drop in replacement of original tube guitar amplifier power supply chokes.
- Physically, parts were designed to look similar to original factory units (where possible).
- For individual photos of each part - visit our website: www.hammondmfg.com

Part No.	Inductance (Henrys)	Amplifier Manufacturer	Amplifier Model Names	Equivalent To Mfg's Part Number
194A	4	Fender	Deluxe, Deluxe Reverb, Vibrolux, Vibrolux Reverb	125C3A & 022707
194B	4	Fender	Bandmaster, Dual Showman, Pro Reverb, Twin Super	125C1A & 022699
194C	40	Marshall	JCM 800	-
194D	5	VOX	AC30 reissue	-
194E	30	VOX	AC30 vintage	-

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Guitar Amp



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Class 2

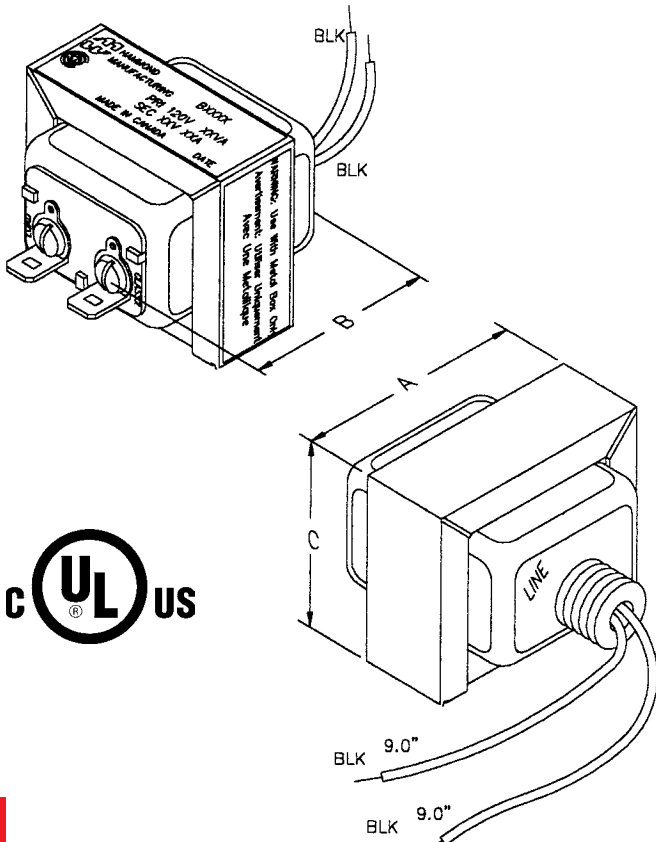


Energy Limiting (BA-BE Series)



CLASS 2 ENERGY LIMITING TRANSFORMERS

- Used in chimes, door bells, security systems, decorative lighting, furnaces, humidifiers, appliances, vending machines, intercom system type applications.
- Rugged, low noise, cool running design, indoor use only.
- Stripped wire input (primary) leads, screw terminal/quick fit tab terminal output (secondary).
- Nipple locknut mount for box installation, complete with locknut and mounting bracket (as shown below).
- Input leads are black, on 240V models 240V lead is red. All models are 60 Hz - inherently limited - no fuses or circuit breakers.
- C UL & UL listed #E184371 - EXCEPT for part numbers BE2F & BE7G.
- CSA certified (#LR 3902 Class 2) energy limiting transformer. Complies with CSA standard C22.2 #66 part B



120 Volt Primary

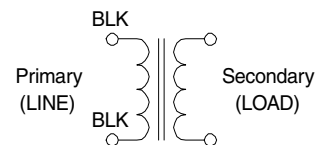
Part No.	A.C. Input (Primary) V (RMS)	A.C. Output Secondary (RMS)		Power Rating VA	Note	Dimensions (Inches)		
		V	A			A	B	C
BA2DA	120	10	0.5	5	*	2.33	2.22	1.98
BC2DA	120	10	1.2	12	*	2.33	2.22	1.98
BC2F	120	16	0.75	12	*	2.33	2.22	1.98
BC2G	120	24	0.5	12	*	2.33	2.22	1.98
BD2E	120	12	1.67	20	*	2.33	2.34	1.98
BD2EE	120	14	1.43	20	*	2.33	2.34	1.98
BD2F	120	16	1.25	20	*	2.33	2.34	1.98
BD2FF	120	18	1.11	20	*	2.33	2.34	1.98
BD2G	120	24	0.833	20	*	2.33	2.34	1.98
BE2F	120	16.5	2.42	40	*	2.33	2.60	1.98
BE2G	120	24	1.67	40	*	2.33	2.60	1.98

Notes: * 105 degree temperature design

Other Primary Voltages

Part No.	A.C. Input (Primary) V (RMS)	A.C. Output Secondary (RMS)		Power Rating VA	Note	Dimensions (Inches)		
		V	A			A	B	C
BD5F	240	16	1.25	20	*	2.33	2.34	1.98
BD5G	240	24	0.83	20	*	2.33	2.34	1.98
BE5G	240	24	1.67	40	*	2.33	2.60	1.98
BE5DG	208/240	24	1.67	40	*	2.33	2.60	1.98
BE7G	347	24	1.67	40	-	2.33	2.60	1.98

Notes: * 105 degree temperature design



Class 2



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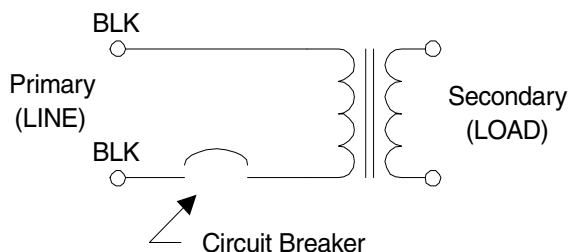
EUROPE
Basingstoke, UK 01256 812812

AUSTRALIA
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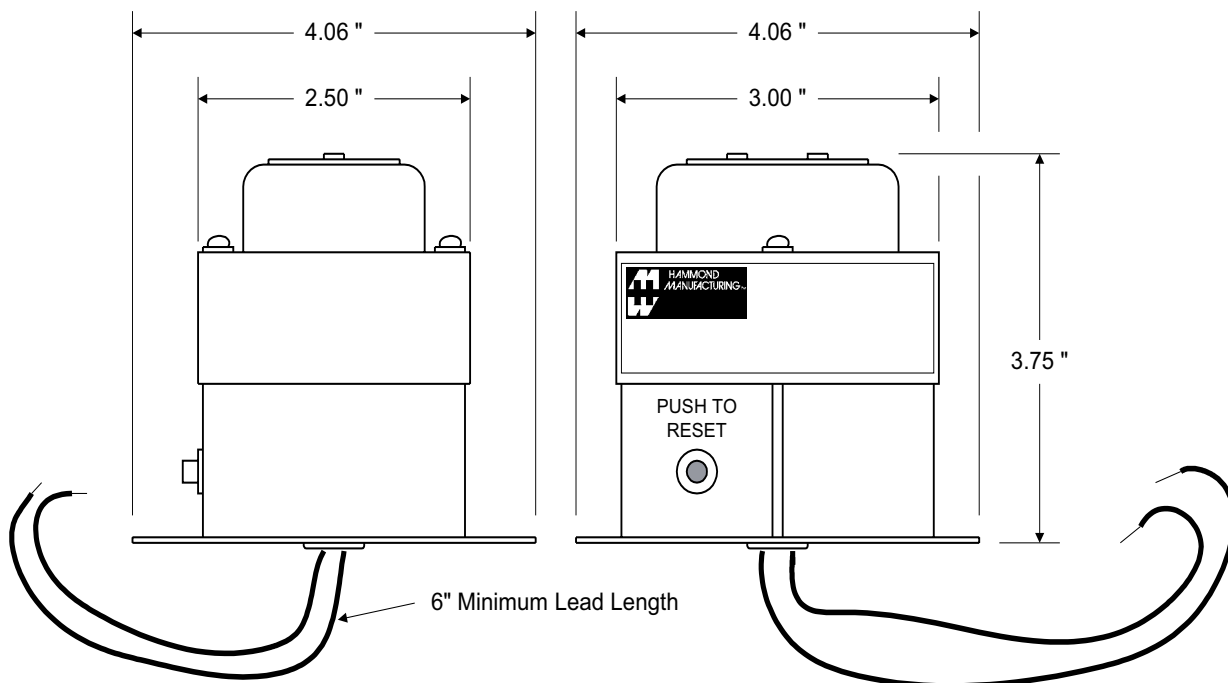
75 VA - CLASS 2 ENERGY LIMITING TRANSFORMERS



- Used in chimes, door bells, security systems, decorative lighting, furnaces, humidifiers, appliances, vending machines, intercom system type applications.
- Rugged, low noise design, indoor use only.
- Stripped wire input (primary) leads, screw terminal output (secondary).
- Mounted on box plate for easy installation.
- Input leads are black 6" minimum, on 240V models 240V lead is red.
- All models are 60 Hz. - limited by built in circuit breaker.
- 16 VAC secondary units are C UL & UL listed
- The 24 VAC secondary units are CSA certified (#LR 3902 Class 2) energy limiting transformer (complies with CSA standard C22.2 #66 part B).



Part No.	A.C. Input (Primary) V (RMS)	A.C. Output Secondary (RMS)		Power Rating VA	Dimensions (Inches)		
		V	A		A	B	C
BF2F	120	16	4.68	75	3.00	2.50	3.75
BF5F	240	16	4.68	75	3.00	2.50	3.75
BF2G	120	24	3.13	75	3.00	2.50	3.75
BF5G	240	24	3.13	75	3.00	2.50	3.75



Class 2

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Energy Limiting (BP Series)

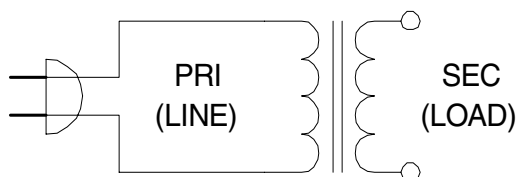
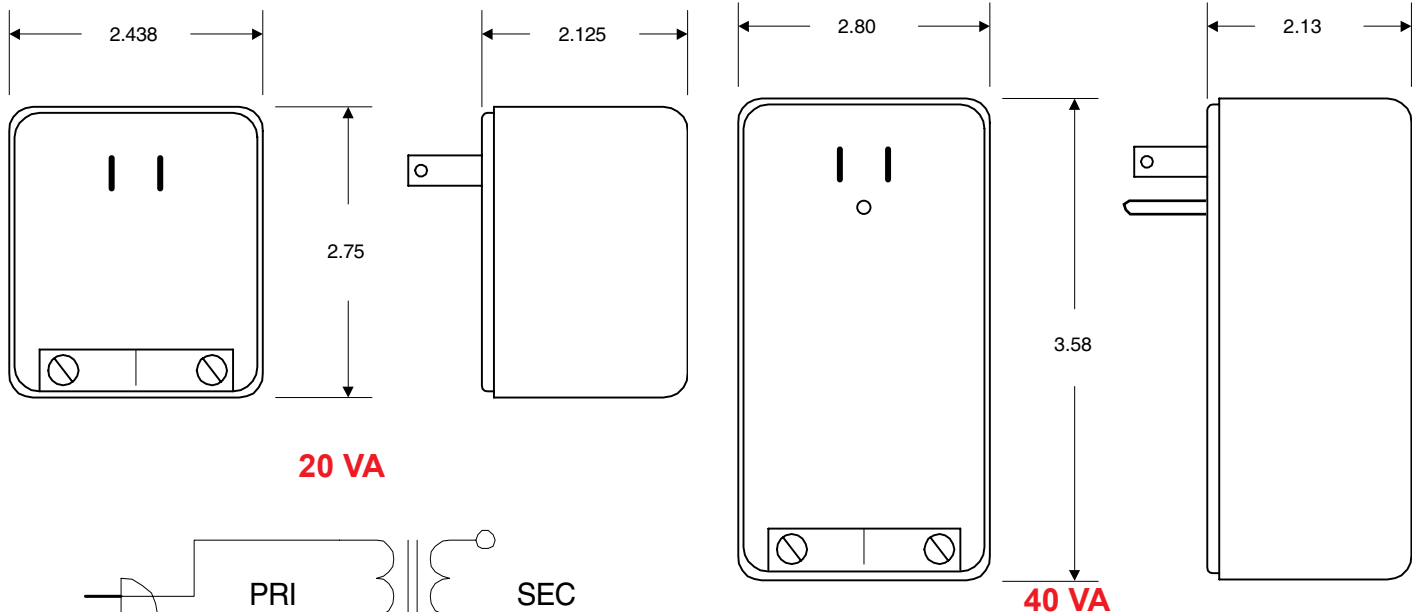


CLASS 2 - PLUG IN ENERGY LIMITING TRANSFORMERS

- Used in AC powered chimes, door bells, security systems, decorative lighting, furnaces, humidifiers, appliances, vending machines and intercom system type applications.
- Enclosed in an attractive plug in black plastic case.
- For indoor use only
- Input 120VAC - 20VA units are inherently limited - no fuses or circuit breakers.
- 40VA units use an internal slow blow fuse.
- Secondary - 2 recessed slot head screw terminals (on plug side).
- All models are 60 Hz.
- CSA certified (#LR 113601) and UL listed (#E 184936)

Part No.	A.C. Input (Primary) V (RMS)	A.C. Output Secondary (RMS)		Power Rating VA
		V	A	
BPD2E	120	12	1.67	20
BPD2EE	120	14	1.43	20
BPD2F	120	16	1.25	20
BPD2FF	120	18	1.11	20
BPD2G	120	24	0.83	20
BPE2E	120	12	3.33	40
BPE2EE	120	14	2.86	40
BPE2F	120	16	2.50	40
BPE2FF	120	18	2.22	40
BPE2G	120	24	1.67	40

Class 2



20 VA

40 VA



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Pulse



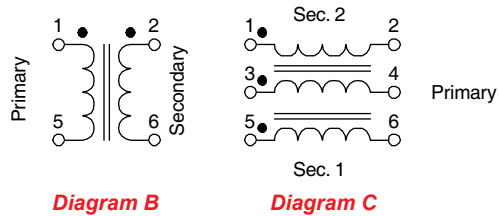
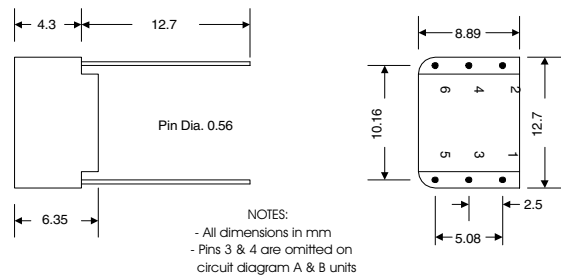
P.C. Board Mount (601-610 Series)



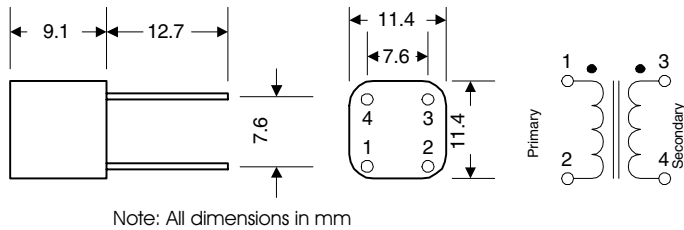
PULSE TRANSFORMERS

- These ferrite cored transformers are fully encapsulated in a high grade black molded case with a UL94V-O rating.
- Used in digital and data processing, line coupling, matching, isolation etc.
- Working voltage rating maximum of 500V D.C.
- ET values up to 50V uS.

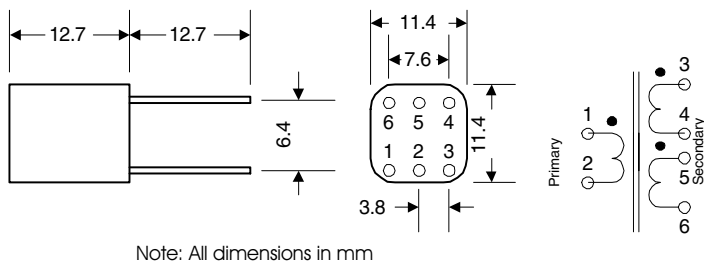
Part No.	Turns Ratio +/- 2%	Primary Inductance uH (min)	Primary ET Constant V uS	Inter W Capacity pf. Ref.	Leakage Inductance uH (max.)	D.C. Resistance Ohms max.	Cir. Dia.
601A	1:01	2060	17.5	45	0.6	1.5	B
601B	1:01	492	8.5	20	0.3	0.8	B
601C	1:01	219	5.5	12	0.25	0.5	B
601D	1:01	50	4	10	0.2	0.4	B
601F	1:01	9.5	6	10	0.2	0.4	B
602A	1:01:01	2060	17.5	35	0.6	1.5	C
602B	1:01:01	492	8.5	20	0.3	0.8	C
602C	1:01:01	219	5.5	12	0.25	0.5	C



610A Dimensions & Schematic



610B Dimensions & Schematic



PULSE TRANSFORMERS

- These ferrite cored transformers are fully encapsulated in a high grade black molded case with a UL94V-O rating.
- Units are intended for wide band and pulse applications including thyristor / triac firing circuits.
- Peak pulse voltage rating maximum of 250V.
- Insulation tested to 1,000V RMS.

Part No.	Ratio	Primary		Secondary Resistance		Primary ET Constant V (uS).	Leakage Inductance uH (max.)	Max. Primary or Secondary Peak Current	
		Inductance mH (min)	Resistance Ohms	Sec. 1 (Ohms)	Sec. 2 (Ohms)			@ 10% Duty	@ 1% Duty
610A	1:01	3.9	3.4	3.9	-	500	60	0.2A	0.6A
610B	1:01	2.7	2.1	2.1	2.3	500	50	0.2A	0.6A

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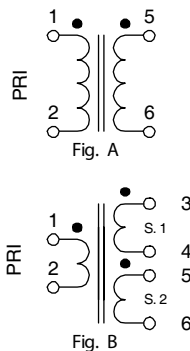
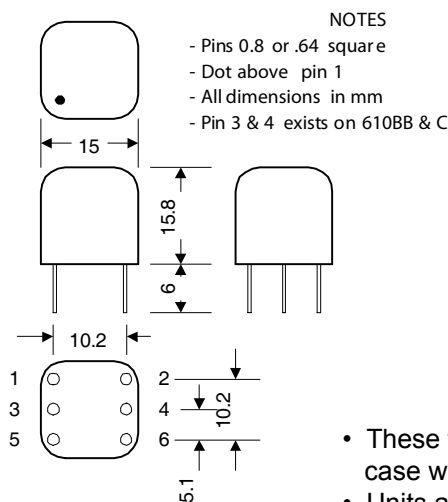
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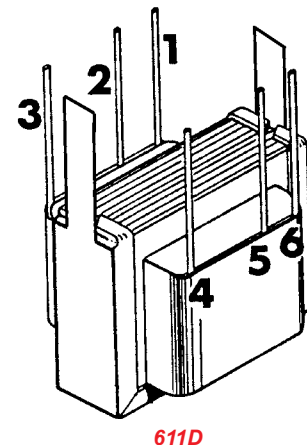
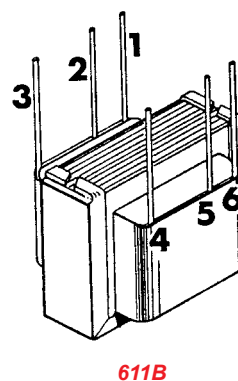
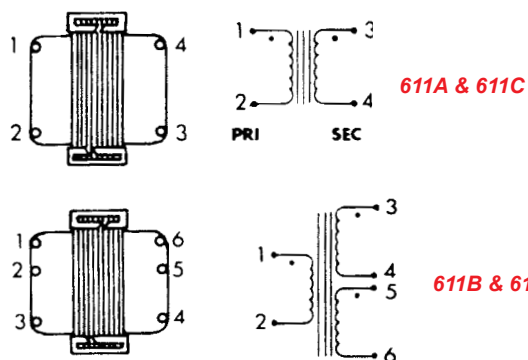
P.C. Board Mount (610-611 Series)



PULSE TRANSFORMERS

- These ferrite cored transformers are fully encapsulated in a high grade black molded case with a UL94V-O rating.
- Units are intended for wide band and pulse applications including thyristor / triac firing circuits, signal isolation, line matching, low power switch mode power supplies, etc.
- Working voltage rating maximum of 500V RMS
- All units are voltage proof tested to 2.0KV peak 50 Hz.

Part No.	Ratio	Primary		Leakage Inductance uH (max)	Capacity pf. (Ref)	D.C. Winding Resistance			Sch. Fig #
		Inductance mH (min)	ET Constant V (uS)			Pri (Ohms)	Sec. 1 (Ohms)	Sec. 2 (Ohms)	
610AA	1:01	3	200	22	23	1.2	1	-	A
610BB	1:01	3	200	9	28	1.4	1.3	1.7	B
610C	2:01	12	400	35	30	4	1.8	2.4	B



PULSE TRANSFORMERS

- Economical, open style, P. C. board pin mount
- Units are intended for pulse applications including thyristor / triac firing circuits.

Part No.	Ratio	Circuit Max. volts	Primary ET Constant V (uS)	Primary		D.C. Winding Resistance		Max. Primary or Secondary Peak Current		Insulation RMS (Volts)	Wt. Oz.
				Inductance mH (min)	D.C. Res. (Ohms)	Sec. 1 (Ohms)	Sec. 2 (Ohms)	@ 10% Duty	@ 1% Duty		
611A	1:01	125	1400	8.6	0.45	0.55	-	0.7 A	2.1 A	1000	0.7
611B	1:01	125	1400	17.2	1.26	1	1.53	0.7 A	2.1 A	1000	0.7
611C	1:01	250	7250	56	3.31	4.46	-	0.7 A	2.1 A	1500	1.2
611D	1:01	250	4000	17	1.73	1.31	2.12	0.7 A	2.1 A	1500	1.2

Part No.	Pin Spacing	Height	Width	Coil Depth	Mounting Tab	
					Centers	Size
611A & 611B	0.2" x 0.6"	.69"	.82"	.57"	-	-
611C & 611D	0.2" x 0.6"	.82"	1.06"	.82"	1"	.12" x .25"

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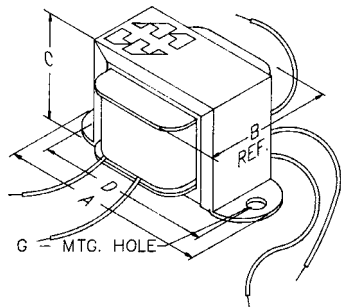


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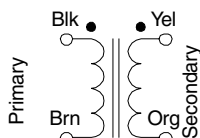
Pulse

Chassis & P.C. Board Mount (612, 630-632 Series)

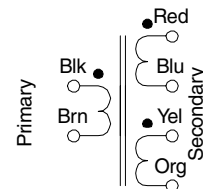


PULSE TRANSFORMERS

- Economical, open style, chassis mount.
- Mounting hole (G) - .187"
- Units are intended for pulse applications including thyristor/triac firing circuits.
- Flexible leads - 4" minimum.

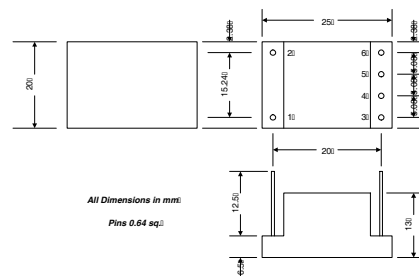
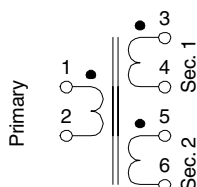


612G



612H

Part No.	Ratio	Circuit Max. Volts	Primary ET Constant V (uS)	Primary		D.C. Winding Resistance		Max. Primary or Secondary Peak Current		Insulation RMS (Volts)	Wt. Oz.	Dimensions (Inches)			
				Inductance mH (min.)	D.C. Res. (Ohms)	Sec. 1 (Ohms)	Sec. 2 (Ohms)	@ 10% Duty	@ 1% Duty			A	B	C	D
612G	1:01	600	4500	6.6	0.87	0.87	-	0.9 A	2.8 A	4000	8	2.06	1.25	1.19	1.75
612H	1:01	600	2300	1.5	0.45	0.42	0.49	0.9 A	2.8 A	4000	8	2.06	1.25	1.19	1.75



PULSE TRANSFORMERS

- These transformers are fully encapsulated in a high grade black molded case with a UL94V-O rating.
- They are intended mainly for thyristor / triac triggering applications.
- All units are voltage proof tested between windings at 2,500V RMS for 1 minute, for a working voltage rating maximum of 440V RMS.

Pulse

Part No.	Turns Ratio	Primary		Leakage Inductance uH (max)	Capacity pf. (max)	D.C. Winding Resistance			
		Inductance mH (min.)	ET Constant V uS			Pri. (Ohms)	Sec. 1 (Ohms)	Sec. 2 (Ohms)	Sec. 3 (Ohms)
630B	1:01	1	120	2	50	0.25	0.23	-	-
631B	1:01	1	120	3	40	0.25	0.22	0.28	-
632B	2:01	1	120	3.5	30	0.24	0.12	0.15	-
630C	1:01	4	240	5	55	0.86	0.83	-	-
631C	1:01	4	240	11	35	0.90	0.76	1.10	-
632C	2:01:01	4	240	11	35	0.84	0.38	0.50	-
630D	1:01:00	16.3	482	18	65	3.50	3.40	-	-
631D	1:01:01	16.3	482	40	40	3.60	3.10	4.20	-
632D	2:01:01	16.3	482	40	40	3.50	1.60	2.00	-



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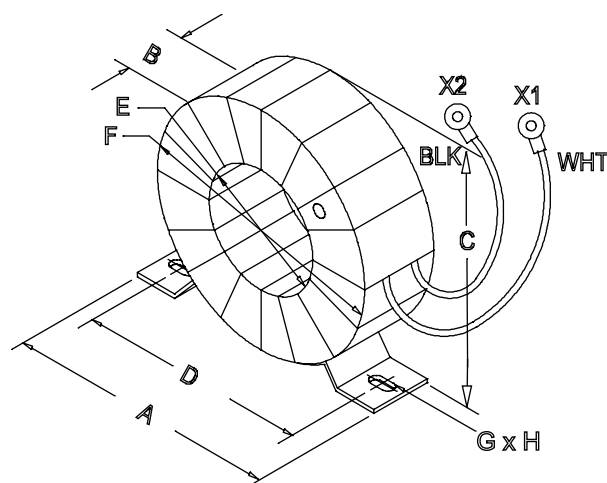
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Instrument



Current Transformers - Indoor Toroidal (CT Series)



SMALL CURRENT TRANSFORMERS

- Toroidal design.
- Supplied with 24" insulated secondary leads, terminated with crimped ring connectors.
- Suitable for use with bare (uninsulated) primary conductor in circuits up to 600 V (4 KV Hi pot); or at higher voltages when a suitably insulated conductor is used.
- All units have 5 A secondary for use with standard AC ammeters with 5 A movements.
- Two hole mounting bracket on all models.

Part No.	Current Ratio Pri./Sec.	Accuracy %	Burden VA	Dimensions (Inches)						Mtg. Slots		Ship Wt. Lb.
				A	B	C	D	E	F	G	H	
CT50A	50:5	3.2	2	3.75	1.75	3.25	3.00	0.87	2.87	.22	.37	1.3
CT60A	60:5	2.4	2	3.75	1.75	3.25	3.00	0.87	2.87	.22	.37	1.4
CT75A	75:5	2.0	2	3.75	1.75	3.25	3.00	0.87	2.87	.22	.37	1.5
CT100A	100:5	2.0	2	3.75	1.75	3.25	3.00	1.20	2.87	.22	.37	1.1
CT150A	150:5	1.2	2	3.75	1.75	3.25	3.00	1.20	2.87	.22	.37	1.4
CT200A	200:5	1.2	2	4.75	1.75	4.25	4.00	2.20	3.87	.22	.37	1.7
CT250A	250:5	0.6	2	4.75	1.75	4.25	4.00	2.20	3.87	.22	.37	1.7
		1.2	5									
CT300A	300:5	0.6	2	4.75	1.75	4.25	4.00	2.20	3.87	.22	.37	1.8
		1.2	10									
CT400A	400:5	0.6	2	4.75	1.75	4.25	4.00	2.20	3.87	.22	.37	1.8
		1.2	10									
CT500A	500:5	0.3	2	4.75	1.75	4.25	4.00	2.20	3.87	.22	.37	1.8
		1.2	20									
CT600A	600:5	0.3	2	6.00	1.75	5.25	5.25	3.50	5.12	.28	.37	2.5
		1.2	20									
CT800A	800:5	0.3	5	6.00	1.75	5.25	5.25	3.50	5.12	.28	.37	2.8
		1.2	50									
CT1000A	1000:5	0.3	5	7.00	1.75	6.25	6.25	4.50	6.12	.28	.37	3.3
		1.2	50									
CT1200A	1200:5	0.3	10	8.00	1.75	7.25	7.25	5.50	7.12	.28	.37	3.8
		1.2	50									



Current Transformers (CT Series)

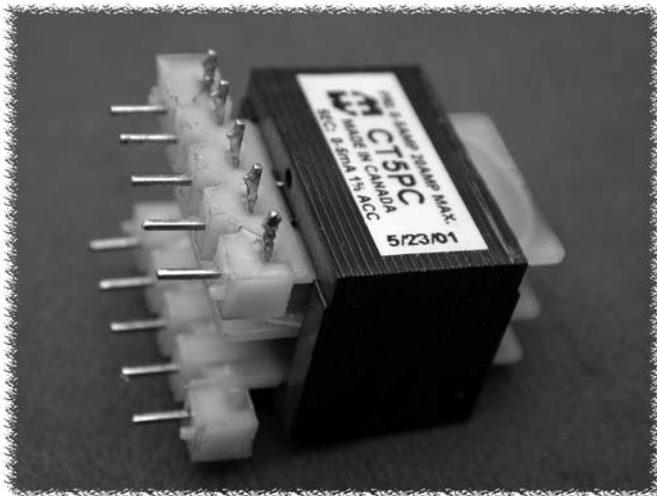
TOROIDAL CT APPLICATION DATA

To obtain current measurement:

- Pass the wire carrying the current to be measured through the window of the C.T. transformer (acting as a primary winding).
- Connect the C.T. secondary to an ammeter with a 5 A movement.

For higher accuracy or higher VA burden rating:

- Choose a C.T. with a primary which is a multiple of the required primary rating and which has the accuracy or VA burden you require.
- Loop the wire carrying the current to be measured through the window a number of times equal to the multiple. This "winding" will reduce the ratio back to required primary rating.
- Example "A": To obtain an accuracy of 1.2% at 10VA burden with a ratio of 100:5, use a C.T.400 and loop 4 primary turns through the window.
- Example "B": To obtain a 25:5 ratio, use a C.T.75 with 3 primary turns to yield 2% accuracy or a C.T.50 with 2 primary turns to yield 3.2% accuracy.



SMALL CURRENT TRANSFORMERS

- Designed for a 5 amp. primary (maximum 20 Amp), secondary current 5 ma.
- 40 - 1,000 Hz. operation.
- Customer to supply primary winding (1 turn through open top of transformer bobbin).
- Two hole chassis mount or P.C. board pin mount.
- Both units have 5 ma. secondary for use with standard AC ammeters with 5 ma.movements.
- High accuracy windings (1%).

Part No.	Mounting	Overall Dimensions (Inches)			Mtg. Hole (Inches)	Ship Wt. oz.
		H	D	W		
CT5CF	Chassis	1.25	1.10	2.063	0.187	2.6
CT5PC	P.C. Board	1.40	1.08	1.03	n/a	1.8

APPLICATION DATA

To obtain current measurement:

1. Pass the wire carrying the current to be measured through the window of the current transformer (acting as a primary winding).
2. Connect the secondary to an ammeter with a 5 mA movement.

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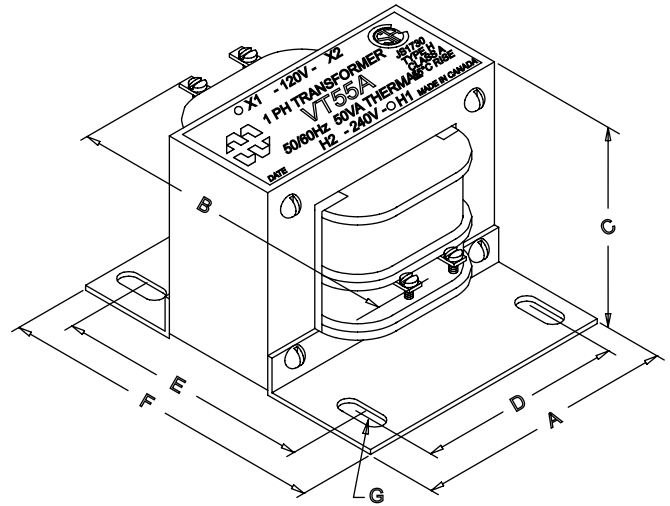
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Potential Transformers (HX, PT & VT Series)



POTENTIAL TRANSFORMERS

- Used (with 150 Volt full scale A.C. voltmeters) to measure the voltage of 240, 480 or 600 VAC systems.
- Primary insulated for 4.0 KV rms test, suitable for L.V. switchgear and motor control use.
- 50/60 Hz. operation.
- Open construction - "Type H" - Insulation system 55 degree C rise, Class 105.
- CSA certified LR3902 or LR38216.
- The nominal line voltages of 240 and 480 volts may be exceeded by 25% for 60 Hz. operation.

Part No.	Nominal Line Voltage	Ratio Pri. / Sec.	Accuracy %	VA	Thermal Rating	Overall Dimensions (Inches)			Mounting Centers (Inches)		Mtg. Slot (Inches)		Ship Wt. Lb.
						A	B	C	D	E	G	H	
VT55A	240	240:120	1.2	0-8	50	3.00	3.25	2.56	2.50	2.50	.22	.44	3.0
HX54A	240	240:120	1.2	0-20	100	3.75	4.00	3.13	3.13	3.13	.22	.44	6.6
VT57A	480	480:120	1.2	0-8	50	3.00	3.25	2.56	2.50	2.50	.22	.44	3.0
HX74A	480	480:120	1.2	0-20	100	3.75	4.00	3.13	3.13	3.13	.22	.44	6.6
VT59A	600	600:120	1.2	0-8	50	3.00	3.25	2.56	2.50	2.50	.22	.44	3.0
HX94A	600	600:120	1.2	0-20	100	3.75	4.00	3.13	3.13	3.13	.22	.44	6.6

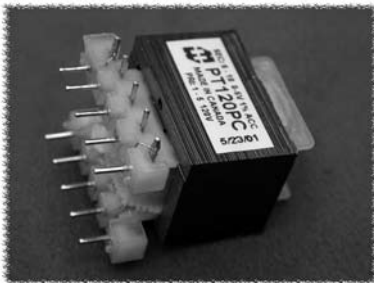


LOW VOLTAGE PT



- Used to measure the voltage of 120 VAC systems with 5 Volt full scale A.C. voltmeters.
- 50/60 Hz. operation.
- Choice of chassis mount or P.C. board pin mount.
- High accuracy windings (1%).

Part No.	Overall Dimensions (Inches)			Mtg. Hole (Inches)	Ship Wt. oz.
	H	D	W		
PT120CF	1.25	1.10	2.063	0.187	3.4
PT120PC	1.40	1.08	1.03	n/a	2.1



Instrument

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EUROPE

Basingstoke, UK 01256 812812

AUSTRALIA

Queenstown, Australia 61-8-8240-2244



HELPFUL HINTS

Your best decision is to try to find a standard, off the shelf transformer to fit your requirements. This ensures a reliable, proven design that seamlessly drops in to your designs. This also allows you take advantage of our cost savings by pooling your requirements with thousands of other customers who have specified standard transformers. You can also take advantage of our large stock of both field distributor inventories and our own!

If you are unable to find what you need from our extensive standard line we may be able to help using a custom design. To help us better serve you, here are a few helpful hints:

- 1) Make sure simple circuit adjustments can't be made to allow you to use a standard transformer. This will prove much less expensive than a "modified" or "special" design.
- 2) Try to find the closest possible standard unit (or series) we make. We have included lots of spec's and photo's to make this easy. Modifying an existing design is much easier, less expensive and faster for both of us. (ex.....you must have a chassis mount 115V primary, 15V @ 3 Amp secondary.....contact us to quote on a "modified 166M16 except 15V @ 3 Amps").
- 3) Also advise us of any product physical changes you may need.
- 4) Please have estimated quantity (production releases) ready and possibly a budget figure to make sure we pick the correct design. If your design appears to be totally custom, contact us for quotes from prints or for initial help.
- 5) Use the Fax quote form on our web site: www.hammondmfg.com

CATALOG NOTES

Hammond Manufacturing products are continually being revised and improved, to use the best materials available. For this reason, Hammond Manufacturing reserves the right to modify existing electrical or mechanical characteristics of any catalog item without notice.

Dimensions shown in this catalog are nominal, subject to manufacturing tolerances. Transformers and chokes require some clearance for adequate ventilation.

WARRANTY

We warrant Hammond Manufacturing products to be free from defects in workmanship or material, and will, without charge, replace or repair within one year from date of shipment from our factory any products that may be found defective upon inspection at our factory. This warranty does not obligate us where products have been subjected to careless handling, improper application or faulty installation, and we expressly disclaim any obligation, guarantee or liability whatsoever except as above stated.

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B	class 2 energy limiting	100
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HX	potential	110
PHC	control	26
PT	potential	110
VT	potential	110
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104	audio, p.c. board, epoxy potted	70
106	audio, p.c. board, epoxy potted	70
107	audio, p.c. board, epoxy potted	72
108	audio, p.c. board, epoxy potted	72
109	audio, p.c. board, epoxy potted	72
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