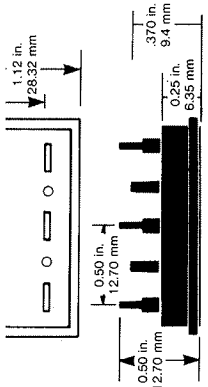
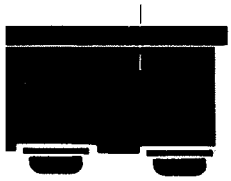
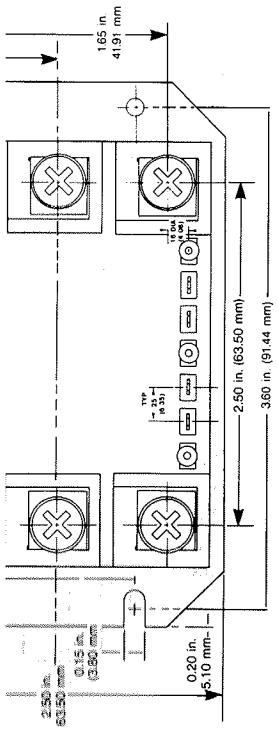






L Series SCR Bridge Circuits

Crydom's L-Series represents the latest innovation in the packaging of single phase power semiconductor bridges. Rated at 13 to 42.5 Amperes, the L-Series can be used in a variety of phase control applications including the speed control of DC motors up to 1-1/2 horsepower.

L-Series features completely isolated construction (rated for 2500 V. "hi-pot" test) in a low profile package. Electrical connections can be made by direct insertion onto a printed circuit board. The entire assembly can be mounted to a heatsink as shown in figure 1.

Nine basic circuits are available. These include complete single phase bridges with free wheeling diodes, as well as two SCR "Building Blocks" for more complex circuits. Voltage ratings are available for either 120, 240 or 280 volt AC power line applications.

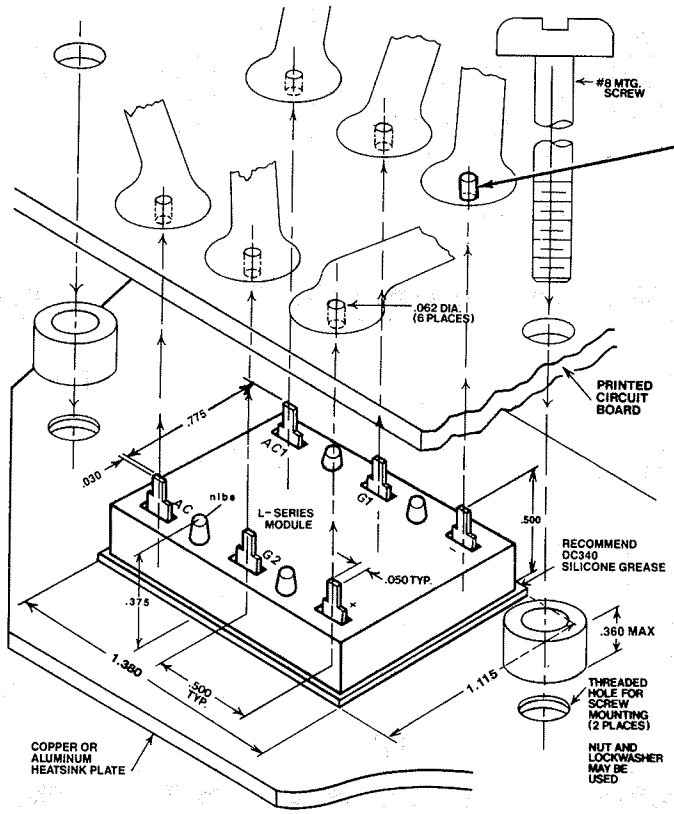


FIGURE 1

Low Cost

13/20/25/42.5 Amperes

120/240/280 VAC

Ideal for up to 1½ HP DC PM Motors

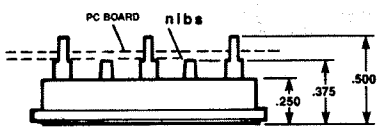


FIGURE 2

UL RECOGNIZED

ELECTRICAL SPECIFICATIONS

		SERIES			
		L3	L4	L5	L6*
I_d	maximum dc output current @ 85° ceramic full bridge (A)	13.0	20	25	42.5
$I_{T(RMS)}$	maximum output current @ 85° ceramic plate CKT 5 (A)	15.0	22	27	46
V_{TM}	maximum SCR voltage (V) @amperes peak	1.8V @13A	2.2V @20A	2.2V @25A	2.2V @40A
I_H	maximum holding current (mA)	100	100	100	200
T_J	operating junction temperature range	−25°C to +125°C			
di/dt	critical rate of rise of on-state current @ T_J = 125°C (A/μS)	100	100	100	100
dv/dt	critical rate of rise of off-state voltage @ T_J = 125°C (A/μS)	200	200	200	200
V_{RMS}	AC line input voltage (V)	120 240 280	120 240 280	120 240 280	120 240 280
I_{TSM}	maximum non-repetitive surge current (A)	150	250	300	600
I^2t	maximum I^2t for fusing t = 8.3 (A^2 sec)	94	260	375	1500

*Not available in all circuit configurations.

		SERIES			
		L3	L4	L5	L6*
I_{GT}	maximum required gate current to trigger, 25°C (mA)	100	100	100	100
I_{GM}	maximum peak gate current (A)	1.5	3.0	3.0	3.0
V_{GT}	maximum required gate voltage to trigger, 25°C (V)	2.5	2.5	2.5	3.0
V_{GD}	maximum non-triggering gate voltage at T_J = 125°C (V)	0.2	0.2	0.2	0.2
P_{GM}	maximum peak gate power, tp = 10μSec. (W)	5.0	5.0	5.0	5.0
$P_{G(AV)}$	average gate power (W)	0.5	0.5	0.5	0.5
V_{GM}	maximum peak gate voltage (reverse) (V)	5.0	5.0	5.0	5.0
Rocs	maximum thermal resistance case to sink (°C/W)	0.1	0.1	0.1	0.1
V_{FM}	maximum peak forward voltage at amperes peak	1.6 @13A	1.85 @20A	2.0 @25A	2.0 @40A
ReJC	typical thermal resistance junction to ceramic base per device (°C/W)	0.6	0.5	0.5	0.5

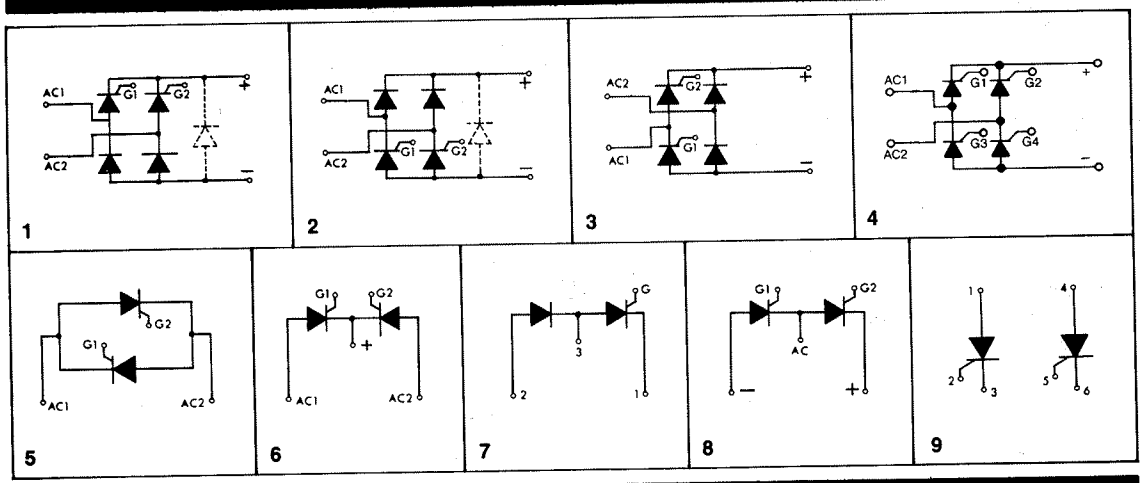
PART NUMBER INDENTIFICATION

1st Digit Series Type	2nd Digit Current	3rd Digit Circuit Type	4th Digit AC Line Voltage	Options
L	**3**-13 Amp. **4**-20 Amp. **5**-25 Amp. **6**-42.5 Amp.*	**1-9** (see schematic diagrams)	**1**-120 volts **2**-240 volts **3**-280 volts	**F**-Free Wheeling Diode Option **C**-Gate to cathode capacitor option. Consult factory.

*Not available in all circuit configurations.

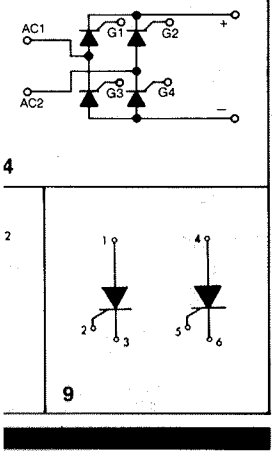
Each part number consists of 4 to 7 digits. Use the table to determine the part that fits your needs.

ELECTRICAL SCHEMATICS



	SERIES			
nt to	L3	L4	L5	L6*
	100	100	100	100
A)	1.5	3.0	3.0	3.0
je to	2.5	2.5	2.5	3.0
voltage	0.2	0.2	0.2	0.2
	5.0	5.0	5.0	5.0
	0.5	0.5	0.5	0.5
	5.0	5.0	5.0	5.0
case to	0.1	0.1	0.1	0.1
e at	1.6 @13A	1.85 @20A	2.0 @25A	2.0 @40A
ction to	0.6	0.5	0.5	0.5

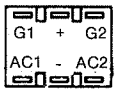
part number consists of
7 digits. Use the table
termine the part
fits your needs.



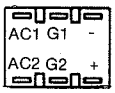
terminal orientation

"L3, 4 & 5" SERIES

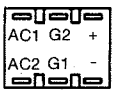
CIRCUIT 1



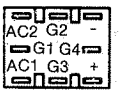
CIRCUIT 2



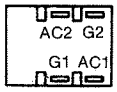
CIRCUIT 3



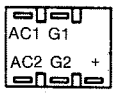
CIRCUIT 4



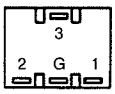
CIRCUIT 5



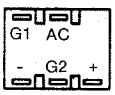
CIRCUIT 6



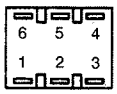
CIRCUIT 7



CIRCUIT 8



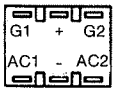
CIRCUIT 9



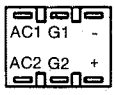
terminal orientation

"L6" SERIES

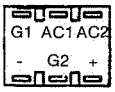
CIRCUIT 1



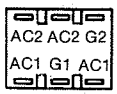
CIRCUIT 2



CIRCUIT 3



CIRCUIT 5



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