

SECTION VII OVERVOLTAGE PROTECTORS

SELECTION AND ORDERING GUIDE

MONOLITHIC OVERVOLTAGE PROTECTORS

L-6-OV Series 70 Amp. PK, 6 Amp. continuous, multiple voltages
 L-2-OV Series 20 Amp. PK, 2 Amp. continuous, multiple voltages

HYBRID OVERVOLTAGE PROTECTORS

L-35-OV Series 350 Amp. PK, 35 Amp. continuous, multiple voltages
 L-20-OV Series 260 Amp. PK, 20 Amp. continuous, multiple voltages
 L-12-OV Series 200 Amp. PK, 12 Amp. continuous, multiple voltages

Current Amps		Device	Power Supply Voltage	Elec. Spec. Page	Package	Ordering Information Page
Non-Rep. PK	On-State					

MONOLITHIC OVERVOLTAGE PROTECTORS

70	6	L-6-OV-5	5	114	TO-3	142
70	6	L-6-OV-6	6	114	TO-3	142
70	6	L-6-OV-12	12	114	TO-3	142
70	6	L-6-OV-15	15	114	TO-3	142
70	6	L-6-OV-18	18	114	TO-3	142
70	6	L-6-OV-20	20	114	TO-3	142
70	6	L-6-OV-24	24	114	TO-3	142
20	2	L-2-OV-5	5	114	TO-66	142
20	2	L-2-OV-6	6	114	TO-66	142
20	2	L-2-OV-12	12	114	TO-66	142
20	2	L-2-OV-15	15	114	TO-66	142
20	2	L-2-OV-18	18	114	TO-66	142
20	2	L-2-OV-20	20	114	TO-66	142
20	2	L-2-OV-24	24	114	TO-66	142

HYBRID OVERVOLTAGE PROTECTORS

350	35	L-35-OV-5	5	114	Hybrid	142
350	35	L-35-OV-6	6	114	Hybrid	142
350	35	L-35-OV-12	12	114	Hybrid	142

SECTION VII OVERVOLTAGE PROTECTORS

SELECTION AND ORDERING GUIDE (Continued)

Current Amps		Device	Power Supply Voltage	Elec. Spec. Page	Package	Ordering Information Page
Non-Rep. PK	On-State					

HYBRID OVERVOTAGE PROTECTORS (Continued)

260	20	L-20-OV-5	5	114	Hybrid	142
260	20	L-20-OV-6	6	114	Hybrid	142
260	20	L-20-OV-12	12	114	Hybrid	142
260	20	L-20-OV-15	15	114	Hybrid	142
260	20	L-20-OV-20	20	114	Hybrid	142
260	20	L-20-OV-24	24	114	Hybrid	142
260	20	L-20-OV-28	28	114	Hybrid	142
260	20	L-20-OV-30	30	114	Hybrid	142
200	12	L-12-OV-5	5	114	Hybrid	142
200	12	L-12-OV-6	6	114	Hybrid	142
200	12	L-12-OV-9	9	114	Hybrid	142
200	12	L-12-OV-12	12	114	Hybrid	142
200	12	L-12-OV-15	15	114	Hybrid	142
200	12	L-12-OV-20	20	114	Hybrid	142
200	12	L-12-OV-24	24	114	Hybrid	142
200	12	L-12-OV-28	28	114	Hybrid	142
200	12	L-12-OV-30	30	114	Hybrid	142

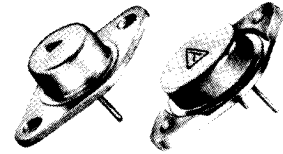
INDEX FOR PACKAGE DIMENSIONS

Begins on page 119.

COMPLETE PRICE INDEX

Begins on page 136.

OVERVOLTAGE PROTECTORS



FEATURES

• True temperature compensated overvoltage protection — 2A, 6A, 12A, 20A, 35A

• Complete overvoltage protectors in single package

DESCRIPTION

The L-2-OV and the L-6-OV series of devices are monolithic overvoltage protectors. These two-terminal devices are available in 2 amp and 6 amp versions. The L-12-OV, L-20-OV and the L-35-OV series of devices are hybrid overvoltage protectors. These devices are available in 12 amp, 20 amp and 35 amp versions. They have been designed to prevent damage to a load caused by excessive power supply output voltage, a disconnected sense lead, or failure of the power supply.

Load protection is accomplished by effectively short circuiting the output terminals of the power supply when the trip point voltage limit of the overvoltage protector is exceeded. All overvoltage protectors in each series have fixed trip point voltage values and

cannot be adjusted. To reset the overvoltage protector, interrupt power to the overvoltage protector, allow the overvoltage protector to cool below 71°C, and reconnect the power.

Both the L-2-OV and the L-6-OV series are available for applications in nominal supply voltage ranges from +5 to +24 volts. The steel TO-3 and TO-66 packages that are used for these device series are hermetically sealed and offer low thermal resistance characteristics. The L-12-OV and the L-20-OV series are available for applications in nominal supply voltage range from +5 to 30 volts. The L-35-OV series are available for applications in nominal supply voltage range from +5 to +12 volts.

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	JUNCTION TEMPERATURE	L-2-OV SERIES		L-6-OV SERIES		L-12-OV SERIES		L-20-OV SERIES		L-35-OV SERIES		UNITS
			MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	
On State Current	I_{DC}	0°C-150°C		2		6	—	12A	—	20A	—	35A	ADC
On State Voltage ⁽⁵⁾	V_{DC}	0°C-150°C		2.6		2.6	—	1.6V	—	1.75V	—	2.2V	VOLTS
Non-Repetitive Peak Surge Current ⁽¹⁾	IP	25°C		20		70	—	200A	—	260A	—	350A	ADC
Standby Current	IS	25°C-100°C		35		35	—	30mA	—	30mA	—	30mA	MADC
Operating Temperature Blocking, Off ⁽²⁾	TCB	Case Temp	-40	100	-40	100	-40°C	+100°C	-40°C	+100°C	-40°C	+100°C	°C
Operating Temperature Conducting, On ⁽³⁾		Case Temp	-40	124	-40	134	-40°C	+140°C	-40°C	+140°C	-40°C	+140°C	°C
Storage Temperature	TS		-40°C to 150°C				-40°C	+125°C	-40°C	+125°C	-40°C	+125°C	°C
Power Dissipation (On) ⁽⁴⁾			5.2		15.6								WATTS
Thermal Resistance	θ_{JC}			5		1							°C/Watt
Trip Point ⁽⁵⁾	TP	Case Temp	0	71	0	71							°C

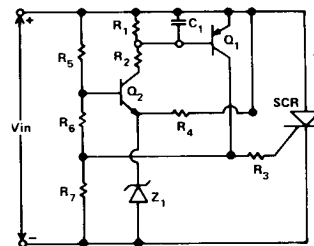
ELECTRICAL SPECIFICATIONS

NOM SUPPLY VOLTAGE (VOLTS)	TRIP POINT VOLTAGE* (VOLTS)	2 AMP MODELS	6 AMP MODELS
5	6.6 ± 0.2	L-2-OV-5	L-6-OV-5
6	7.3 ± 0.2	L-2-OV-6	L-6-OV-6
12	13.7 ± 0.4	L-2-OV-12	L-6-OV-12
15	17.0 ± 0.5	L-2-OV-15	L-6-OV-15
18	20.5 ± 1.0	L-2-OV-18	
20	22.8 ± 0.7	L-2-OV-20	
24	27.3 ± 0.8	L-2-OV-24	

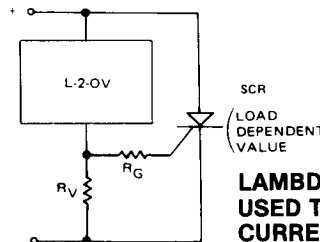
NOM SUPPLY VOLTAGE (VOLTS)	TRIP POINT VOLTAGE* (VOLTS)	12 AMP MODELS	20 AMP MODELS	35 AMP MODELS
5	6.6 ± 0.3	L-12-OV-5	L-20-OV-5	L-35-OV-5
6	7.4 ± 0.2	L-12-OV-6	L-20-OV-6	L-35-OV-6
9	10.5 ± 0.5	L-12-OV-9		
12	13.8 ± 0.5	L-12-OV-12	L-20-OV-12	L-35-OV-12
15	17.0 ± 0.5	L-12-OV-15	L-20-OV-15	
20	22.8 ± 0.7	L-12-OV-20	L-20-OV-20	
24	27.3 ± 0.8	L-12-OV-24	L-20-OV-24	
28	31.9 ± 1.0	L-12-OV-28	L-20-OV-28	
30	33.5 ± 1.0	L-12-OV-30	L-20-OV-30	

*TRIP POINT VOLTAGE TOLERANCE SPECIFIED OVER A TEMPERATURE RANGE OF 0°C TO 71°C

HYBRID OVERVOLTAGE PROTECTOR



- ⁽¹⁾For sinusoidal current duration of 8.3 milliseconds max.
 - ⁽²⁾Case temperature for overvoltage protector in non-conducting or "OFF" state.
 - ⁽³⁾Case temperature for overvoltage protector in conducting or "ON" state. Power must be removed and case temperature allowed to drop to 71°C before application of output voltage.
 - ⁽⁴⁾For operation above: (L-6) 134°C T_{CASE}, derate @ 1W/C° (L-2) 124°C T_{CASE}, derate @ 0.2W/C°
 - ⁽⁵⁾Kelvin Connections Required
- O.V.P. SELECTION:** When using a fuse or circuit breaker consider peak non-repetitive surge current rating. If no fuse or circuit breaker is to be employed, use on state current rating.



LAMBDA L-2-OV USED TO BUILD HIGHER CURRENT LEVEL OV PROTECTOR.