

PART NUMBERS

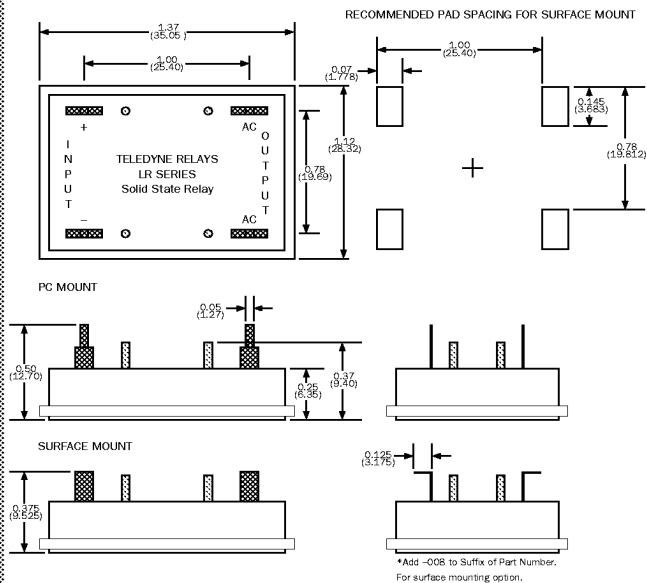
Package & Chip Type	Max Blocking Voltage (piv)/ Line Rating	Input Type	Output Current Amps	Options
LR-SCR	1200480 600240	D-DC Input, Zero Cross Switching	25 - SCR 40 - SCR 10 - Triac	See Table Below and Page 58
LRT-Triac	600240	R-DC Input, Random Turn-On A-AC Input, Zero Cross Switching	25 - Triac	

Options (Add Suffix to Part Number) - See Page 58 for full description

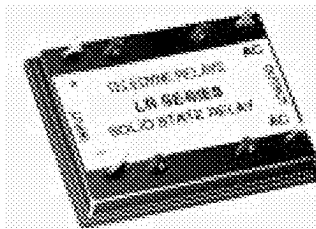
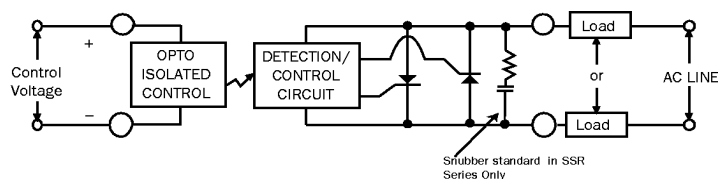
-008	Surface Mount Terminals
-012	EZ Mount™
-013	EZ Mount™ (2 sided adhesive)
-015	Output Snubber
-016	MOV
-021	TransAx™ (Available for D or R input, SCR output only)
-022	24 VAC Control

Part Number Example: LR1200480R25

MECHANICAL SPECIFICATION



BLOCK DIAGRAM



FEATURES/BENEFITS

- Ultraminiature package for achieving optimum size/performance goals.
- Designed for PC Board through hole or optional Surface Mount installation.
- Triac output option for economy; Back-to-Back SCR output option for higher current and voltage ratings.
- Choice of Zero Cross and Random Turn-On versions.
- Constant Current Input minimizes source current requirement (standard on D and A inputs only)
- Exposed ceramic baseplate for reduced thermal resistance and best thermal performance.
- Constructed using Teledyne's unique Powertherm™ process which minimizes thermal interconnections, allowing for cool and reliable operation.
- The logic drive circuitry section uses the latest in reliable surface mount technology.
- Optional TransAX™ transient eliminator offers up to 2000V Protection! (Available for LR series D or R inputs only)
- UL or ULC Recognized File #E128555
- CE # EN60947-1

TYPICAL APPLICATIONS

- On/Off controls of medium power AC equipment.
- Interfacing of microprocessor controls to AC loads - lights, motors, heaters, valves, solenoids etc.
- Electromechanical line relay replacement.
- Industrial and Process Controls.
- Uninterruptable Power Supplies.
- Robotics motor position and speed controls.
- Light dimmers.
- Transformer tap switch.

GENERAL DESCRIPTION

The LR/LRT series AC Solid State Relays are designed to control heavy loads in an ultraminiature, physically compact package. Optical isolation ensures complete protection of control elements from load transients. Teledyne's advanced design featuring the Powertherm™ process offers users superior thermal management resulting in superior performance, quality and reliability.

ELECTRICAL SPECIFICATIONS

INPUT (CONTROL) SPECIFICATIONS

Parameter	Input Type	Min	Max	Units
Control Voltage Range	D	3	32	Vdc
	R	4	26	
	A	90	280	Vac
Input Current	D,R(@5Vdc)	15		mA
	A(@90Vac)	15		
Must Turn-Off Voltage	D,R	1		Vdc
	A	10		Vac
Reverse Voltage	D,R	-32		Vdc
Protection	A	N/A		
Turn-Off Current	D,R	0.25		mA(DC)
	A	2.5		mA(AC)

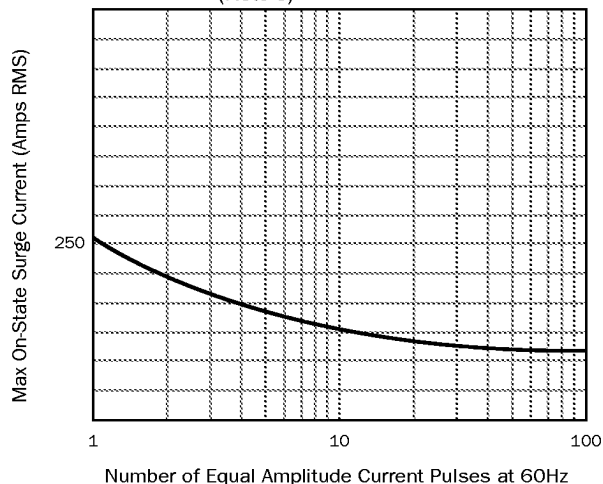
OUTPUT (LOAD) SPECIFICATIONS

Parameter	Voltage Code	Min	Max	Units
Load Voltage Rating	600240	24	280	Vac
	1200480	48	530	
Frequency Range (Note 2)		47	400	Hz
Over Voltage Range	600240		600	VPeak
	1200480		1200	
On-State Voltage Drop @ Max Rated Current	Triac Output	1.5		V
	SCR Output	1.7		V
Turn-On Time	D,A		8.3	ms
	R		0.02	ms
Turn-Off Time			8.3	ms
Leakage Current (Off-State) @25°C			0.5	mA
dV/dt (Typical)			500	V/μs
Isolation (All Terminals To Heatsink) = VRMS For 1 Min With Unit Mounted Properly				
			4000	V
Operating Temperature		-40	125	°C
Power Factor Range		0.5	1.0	

OUTPUT (LOAD) SPECIFICATIONS (Contd)

Parameter	Output Current	Min	Max	Units
Output Current Rating (Load Current @ 85°C)	10	0.05	10	A
	25	0.05	25	
	40	0.05	40	
Surge Current Rating	10		100	A
See Fig 1 (Non- Repetitive 16.7 mS)	25		250	
	40		400	
Thermal Resistance	10 Triac Output	0.6		°C/W
Junction to Case (J _c)	25 Triac Output	0.6		
	25 SCR Output	0.5		
	40	0.35		

FIGURE 1 Max Non-Repetitive Surge Current
(Note 3)



NOTES:

- Where overvoltage transient spikes are present, suppression may be required. A suppressor and/or a snubber across the AC terminals of the module will provide additional transient immunity.
- For 400 Hz inductive load, contact factory.
- Curve for 25 amp SCR output shown. Contact factory for other outputs