PART NUMBERS

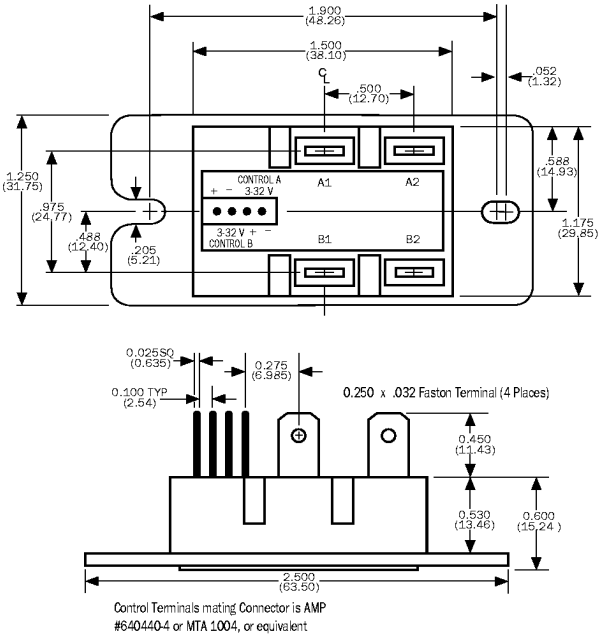
Package & Chip Type	Max Blocking Voltage (piv)/ Line Rating	Input Type	Output Current Amps	Options
BRD-SCR	**600240**	**D**-DC Input Zero Cross Switching **R**-DC Input, Random Turn-On	**25** **40**	See Table Below and Page 58

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

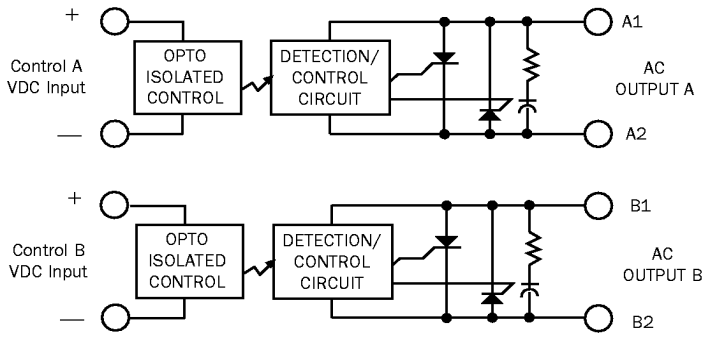
-012	EZ Mount™
-016	MOV

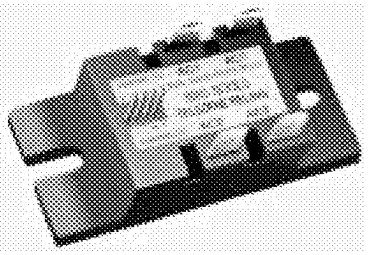
Part Number Example: BRD600240D40

MECHANICAL SPECIFICATION



BLOCK DIAGRAM





FEATURES/BENEFITS

- Two independently controlled Solid State Relays in a single package.
- 25% smaller mounting footprint than industry standard SSR package.
- Quick connect type power terminals in a high temperature plastic housing for mechanical ruggedness.
- SCR outputs for high dv/dt, current and voltage capability.
- Constant Current Input minimizes source current requirement (standard on **D** input only)
- Exposed ceramic baseplate for reduced thermal resistance and best thermal performance.
- Constructed using Teledyne's unique Powertherm™ process. This process yields superior thermal impedance and power cycling capabilities through reduced thermal interconnections, allowing for cooler, more reliable operation.
- Certifications:
  - UL and ULC Recognized File #E128555
  - CE # EN60947-1

TYPICAL APPLICATIONS

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

GENERAL DESCRIPTION

The BRD series AC Solid State Relays are designed to save space while providing independent control of large amounts of power in two separate circuits. Optical isolation ensures complete protection of each relay circuit's control elements from load transients in each load circuit. Teledyne's advanced design featuring the Powertherm™ process offers users superior thermal management resulting in excellent performance, quality and reliability.

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

ELECTRICAL SPECIFICATIONS

INPUT (CONTROL) SPECIFICATIONS

Parameter	Input Type	Min	Max	Units
Control Voltage Range	D	3	32	Vdc
	R	4	26	
Input Current	(@5Vdc)		15	mA
Must Turn-Off Voltage		1		Vdc
Reverse Voltage Protection			-32	Vdc
Turn-Off Current		0.25		mA(DC)

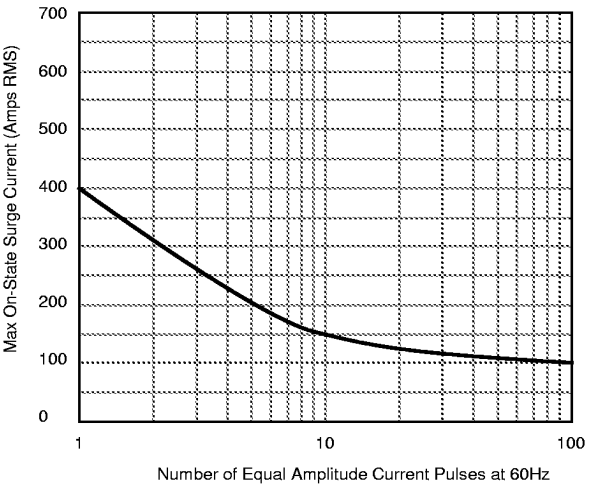
OUTPUT (LOAD) SPECIFICATION

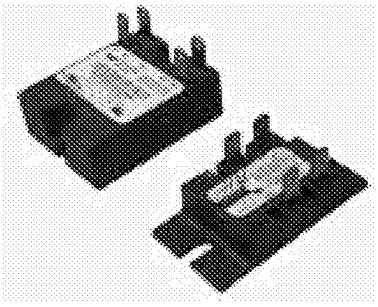
Parameter	Voltage Code	Min	Max	Units
Load Voltage Rating	600240	24	280	Vac
Frequency Range (Note 2)		47	400	Hz
Over Voltage Range	600240		600	VPeak
On-State Voltage Drop @ Max Rated Current		1.7		V
Turn-On Time	D		8.3	ms
	R		0.02	ms
Turn-Off Time			8.3	ms
Leakage Current (Off-State) @25 °C			0.5	mA
dV/dt (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 Per Output (Load Current @85°C)	25	0.05	25	A
	40	0.05	40	
Surge Current Rating See Fig 1 (Non-Repetitive 16.7 mS)	25		300	A
	40		500	
Thermal Resistance Junction to Case (J_C)	25 One Section On		0.4	°C/W
	25 Both Sections On		0.3	
	40 One Section On		0.5	
	40 Both Sections On		0.25	

FIGURE 1 Max Non-Repetitive Surge Current





The BRD package has the same mounting holes, current rating, pins and fastons as the larger standard dual package. So why use a BRD package instead of a dual? Space! The BRD package footprint is 25% less than the dual package as shown in the photo at left.

NOTES:

1.) Where overvoltage transient spikes are present, suppression may be required. A suppressor and/or a snubber circuit across the AC terminals of the module will provide additional transient immunity.

2.) For 400 Hz inductive load, contact factory.