



SSRD Series

Dual AC Output “Hockey Puck” Solid State Relay With Paired SCR Outputs



File E29244

Users should thoroughly review the technical data before selecting a product part number. It is recommended that users also seek out the pertinent approvals files of the agencies/laboratories and review them to ensure the product meets the requirements for a given application.

Features

- Two independent AC output solid state relays in one standard package.
- Inverse parallel SCR outputs.
- 25A rms & 40A rms versions available.
- Zero voltage and random voltage turn-on versions.
- 4000V rms optical isolation.
- Quick connect style terminals.

Engineering Data

Form: 2 Form A (2 SPST-NO).

Duty: Continuous.

Isolation: 4000V rms input-to-output;
2500V rms input or output to ground.

Temperature Range:

Storage: -30°C to +100°C

Operating: -30°C to + 80°C

Case Material: Plastic, UL rated 94V-0.

Case and Mounting: Refer to outline dimension.

Termination: Refer to outline dimension.

Approximate Weight: 3.17 oz (90g)

Ordering Information

Typical Part Number	SSRD	-240	D	25	R
1. Basic Series: SSRD = Dual output SSR - 2 SPST - NO					
2. Line Voltage: 240 = 24 - 280VAC					
3. Input Type & Voltage: D = 4 - 15VDC DE = 18 - 32VDC					
4. Maximum Switching Rating/Output: 25 = .1 - 25A rms @ 25°C, mounted to heatsink 40 = .1 - 40A rms @ 25°C, mounted to heatsink					
5. Options: Blank = Zero voltage turn-on (both outputs) R = Random voltage turn-on (both outputs)					

Our authorized distributors are more likely to maintain the following items in stock for immediate delivery.

SSRD-240D25 SSRD-240D40

Input Specifications

Parameter	Units	SSRD-240D25 SSRD-240D25R SSRD-240D40 SSRD-240D40R	SSRD-240DE25 SSRD-240DE25R SSRD-240DE40 SSRD-240DE40R
Control Voltage Range V_{IN}	VDC	4 - 15	18 - 32
Must Operate Voltage $V_{IN(OP)}$ (Min.)	VDC	4.0	18
Must Release Voltage $V_{IN(REL)}$ (Min.)	VDC	1	1
Input Current	mA DC	3 - 40	3 - 40
Input Current (Typical)	mA DC	15 @ 8 Vdc	20 @ 24 Vdc
Input Resistance	Ohms	Current regulator	

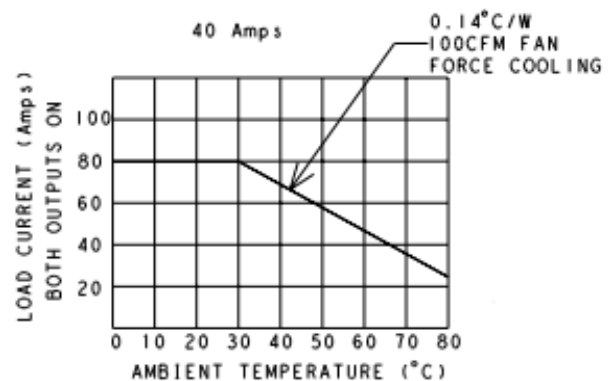
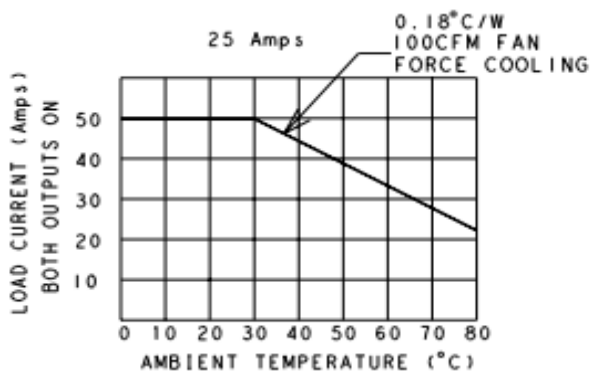
SSRD Series (Continued)

Output Specifications (@ 25° C, unless otherwise specified)

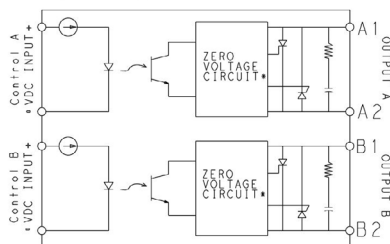
Parameter	Conditions	Units	25A Models	40A Models
Load Voltage Range V_L	$f = 47 - 63 \text{ Hz.}$	V rms	24 - 280	
Peak Voltage (Min.)	$t = 1 \text{ Min.}$	V peak	600	
Load Current Range I_L^*	Resistive	A rms	.1 - 25	.1 - 40
Single Cycle Surge Current (Max.)		A peak	300	800
Leakage Current (Off-State) (Max.)	$V_L = 280 \text{ V rms}$	mA rms	5.0	
On-State Voltage Drop (Max.)	$I_L = \text{Max.}$	V peak	1.6	1.8
Static dv/dt (Off-State) (Min.)		V/ μs	300	500
Thermal Resistance, Junction to Baseplate ($R_{\theta JC}$) (Max.)	Both sections On	°C/W	2.35	.86
Turn-On Time (Max.)	$f = 60 / 50 \text{ Hz.}$	ms	8.3 / 10 for Zero Voltage Turn-On Models 0.1 for Random Voltage Turn-On Models	
Turn-Off Time (Max.)	$f = 60 / 50 \text{ Hz.}$	ms	10 for Zero & 8.3 for Random Voltage turn ON	
I ² T Rating	$t = 8.3 \text{ ms}$	A ² Sec.	510	3745
Load Power Factor Rating	$I_L = \text{Max.}$		0.5 - 1.0	

* See Derating curve

Electrical Characteristics (Thermal Derating Curves)



Operating Diagram

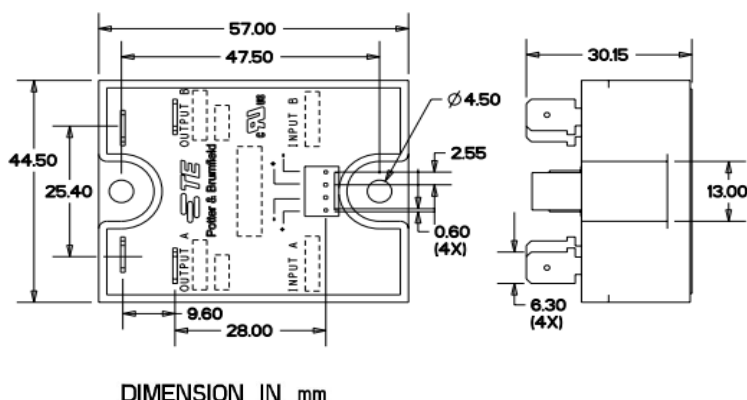


Random Turn-on units have a Random Turn-on circuit instead of zero voltage circuit

Heatsink Recommendations

- We recommend that solid state relay modules be mounted to a heatsink sufficient to maintain the module's base temperature at less than 85°C under worst case ambient temperature and load conditions.
- The heatsink mounting surface should be a smooth (30-40 micro-inch finish), flat (30-40 micro-inch flatness across mating area), un-painted surface which is clean and free of oxidation.
- An even coating of thermal compound (Dow Corning DC340 or equivalent) should be applied to both the heatsink and module mounting surfaces and spread to a uniform depth of .002" to eliminate all air pockets.
- The module should be mounted to the heatsink using two #10 screws.

Outline Dimensions



Input Terminal Connectors are available from several different manufacturers.

TE P/N: 103976-3 or 640440-4
Methode P/N: 1300-004-422

Consult your local distributor for these or equivalent connectors.

SSRD Series (Continued)

Product Code	Part Number
SSRD-240D25	1-1393030-4
SSRD-240D40	1-1393030-6
SSRD-240D25R	1-1393030-5
SSRD-240D40R	1-2319263-5
SSRD-240DE25	4-1393030-0
SSRD-240DE40	1-2319263-4
SSRD-240DE25R	4-1393030-1
SSRD-240DE40R	4-1393030-3

To view the Solid-State relay application notes
[click here](#)