

# SSRD series

## Dual AC Output "Hockey Puck" Solid State Relay With Paired SCR Outputs



File E81606

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.
- Enhanced noise immunity (designed to meet level 3 requirements of European EMC Directive).
- Inverse parallel SCR outputs.
- 25A rms & 40A rms versions available.
- Choose from 4-15 VDC or 17-32 VDC input control.
- 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.
- Capacitance:** 8.0 pf typical (input to output).
- Temperature Range:**  
**Storage:** -40°C to +100°C  
**Operating:** -40°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:** 3.5 oz. (98g).

### Ordering Information

Sample Part Number ▶ SSRD -240 D 25

1. **Basic Series:** SSRD = Dual output SSR - 2 SPST - NO

2. **Line Voltage:** 240 = 24-280 VAC

3. **Input Type & Voltage:** D = 4-15 VDC  
DE = 17-32 VDC

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

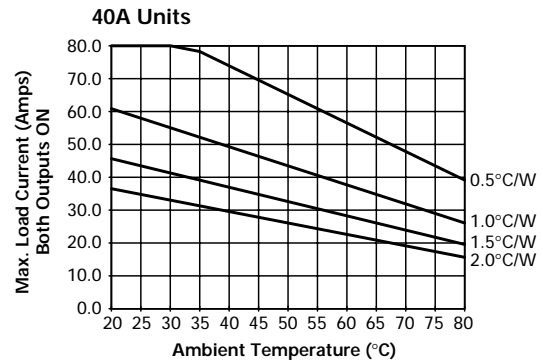
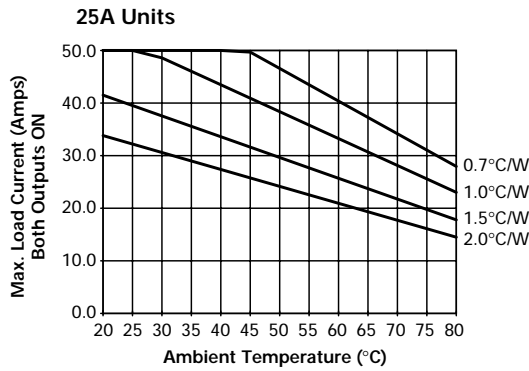
Parameter	Units	Zero V Turn-on and Random V Turn-on Units	
Control Voltage Range $V_{IN}$	VDC	4-15	17-32
Must Operate Voltage $V_{IN(OP)}$ (Min.)	VDC	3.75	17
Must Release Voltage $V_{IN(REL)}$ (Min.)	VDC	1	1
Input Current (Max.)	mA DC	34	24
Input Current (Min. for On-State)	mA DC	7.5	13
Input Resistance	Ohms	500	1,500

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

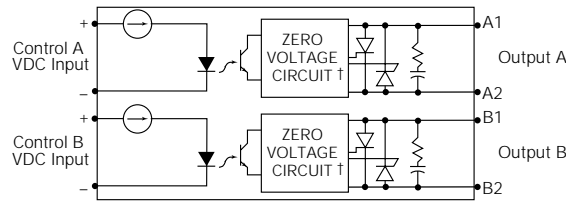
Parameter	Conditions	Units	25A Models	40A Models
Load Voltage Range $V_L$	$f = 47 - 63 \text{ Hz.}$	V rms	24-280	
Peak Voltage (Min.)	$t = 1 \text{ Min.}$	V peak	550	
Load Current Range $I_L^*$	Resistive	A rms	0.1-25	0.1-40
Single Cycle Surge Current (Max.)		A peak	500	780
One Second Surge Current (Max.)		A peak	150	234
Leakage Current (Off-State) (Max.)	$V_L = 280\text{V rms}$	mA rms	0.1	
On-State Voltage Drop (Max.)	$I_L = \text{Max.}$	V peak	1.4	1.3
Static $dv/dt$ (Off-State) (Min.)		V/ $\mu\text{s}$	500	
Thermal Resistance, Junction to Baseplate ( $R_{\theta J-B}$ ) (Max.)	Both Sections On	°C/W	0.6	0.6
Turn-On Time (Max.)	$f = 60 \text{ Hz.}$	ms	8.33 for Zero Voltage Turn-On Models <0.1 for Random Voltage Turn-On Models	
Turn-Off Time (Max.)	$f = 60 \text{ Hz.}$	ms	8.33	
$I^2t$ Rating	$t = 8.3 \text{ ms}$	A <sup>2</sup> Sec.	1,041	2,435
Load Power Factor Rating	$I_L = \text{Max.}$		0.5 - 1.0	

\*See Derating Curves

**Electrical Characteristics (Thermal Derating Curves)**



**Operating Diagram**

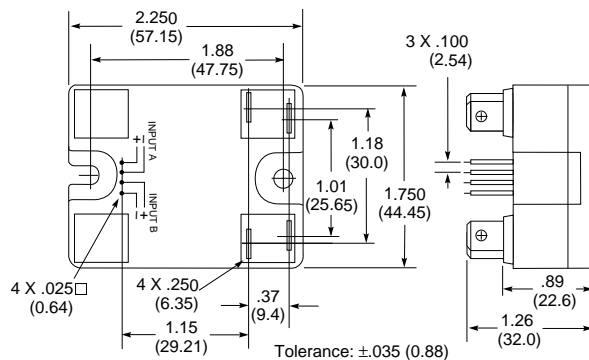


† Random Turn-on Units have a Random Turn-on circuit instead of Zero Voltage Circuit

**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.

**AMP P/N:** 103976-3 or 640440-4  
**Method P/N:** 1300-004-422

Consult your local distributor for these or equivalent connectors.