



## SSRF series

### 25A SIP Solid State Relay With Paired SCR Output, Integral Heatsink

UL 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 confirm the product meets the requirements for a given application.

#### Features

- Heatsink is integrated into package.
- 25A rms inverse-parallel connected SCR output.
- Choice of 240 or 480VAC nominal output.
- 3-15 / 4-15VDC input control.
- Zero voltage and random voltage turn-on versions.
- 4,000V rms optical isolation.
- Pinout compatible with OAC or OACM series output modules.

#### Engineering Data

**Form:** 1 Form A (SPST-NO).

**Duty:** Continuous.

**Isolation:** 4,000V rms input-to-output-to-ground.

**Insulation Resistance:**  $10^9$  Ohms, minimum, at 500VDC.

**Capacitance:** 8.0 pF maximum (input to output).

**Temperature Range:**

**Storage:** -30°C to +125°C

**Operating:** -30°C to +80°C

**Case Material:** Thermally conductive epoxy encapsulation.

**Case and Mounting:** Refer to outline dimension drawing.

**Termination:** Printed circuit terminals. Refer to outline dimension drawing.

**Approximate Weight:** 0.85 oz. (25.0g).

#### Ordering Information

Sample Part Number ▶		SSRF	-240	D	25	R
1. Basic Series: SSRF = SIP Solid State Relay with Integral Heatsink						
2. Line Voltage: 240 = 12 - 280 VAC 480 = 48 - 660 VAC						
3. Input Type & Voltage: D = 3 - 15VDC (240V output types) or 4 - 15VDC (480V output types)						
4. Maximum Switching Rating/Output: 25 = 25.0A rms (with forced air cooling)						
5. Options: Blank = Zero voltage turn-on R = Random voltage turn-on						

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

SSRF-240D25      SSRF-480D25  
SSRF-240D25R      SSRF-480D25R

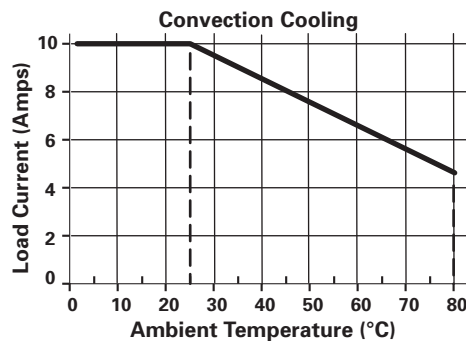
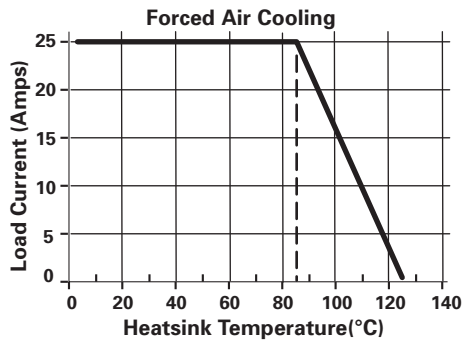
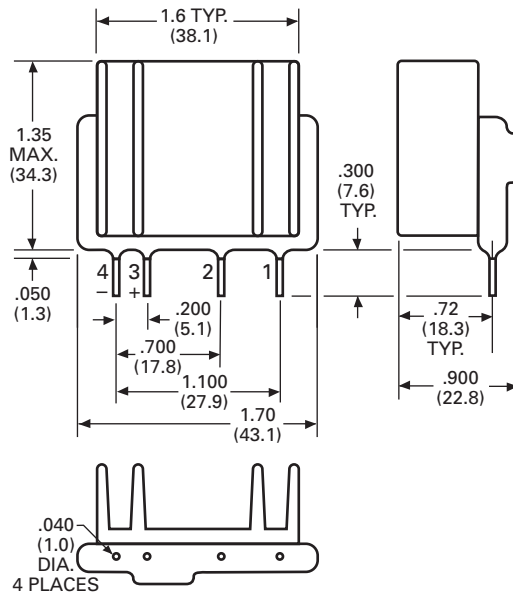
#### Input Specifications

Parameter	Conditions	Units	240V Output, Zero or Random V Turn-on	480V Output Units, Zero or Random V Turn-on
Control Voltage Range $V_{IN}$	@ 25°C	VDC	3-15	4-15
Must Operate Voltage $V_{IN(ON)}$ (Min.)	@ 25°C	VDC	3.0	4.0
Must Release Voltage $V_{IN(REL)}$ (Min.)	@ 25°C	VDC	1.0	1.0
Input Current @ 5 VDC (Typ.)	@ 25°C	mA DC	15	15
Input Impedance (Nom.)	@ 25°C	ohms	300	240

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

Parameter	Conditions	Units	240V Nom. Output Units	480V Nom. Output Units
Load Voltage Range $V_L$	$f = 47-63$ Hz.	V rms	12-280	48-660
Repetitive Blocking Voltage (Min.)		V peak	$\pm 600$	$\pm 1200$
Load Current Range $I_L^*$	Max. Heatsink Temp. 85°C	A rms	.06-25.0 (Forced Air Cooling) .06-10.0 (Convection Cooling)	.06-25.0 (Forced Air Cooling) .06-10.0 (Convection Cooling)
Single Cycle Surge Current (Min.)		A peak	250	250
Leakage Current (Off-State) (Max.)	$f = 60$ Hz, $V_L = 280$ Vrms	mA rms	0.1	0.1
On-State Voltage Drop (Max.)	$I_L = \text{Max.}$	V peak	1.6	1.6
Static dv/dt (Off-State) (Min.)	$V_L = \text{Max.}$	V/ $\mu$ s	500	500
Turn-On Time (Max.)	$f = 60$ Hz.	ms	8.3 for Zero Voltage Turn-On Models 0.1 for Random Voltage Turn-On Models	8.3 for Zero Voltage Turn-On Models 0.1 for Random Voltage Turn-On Models
Turn-Off Time (Max.)	$f = 60$ Hz.	ms	8.3	8.3
$I^2 t$ Rating	$t = 8.3$ ms	A <sup>2</sup> Sec.	260	260
Load Power Factor Rating (Min.)	$I_L = \text{Max.}$		0.5	0.5

\*See Thermal Derating Curves.

**Electrical Characteristics (Thermal Derating Curves)**

**Outline Dimensions**

**PIN ASSIGNMENTS:**

PIN 1: AC LOAD  
PIN 2: AC LOAD  
PIN 3: + DC INPUT  
PIN 4: - DC INPUT

**Disclaimer**

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