



# SSRF series

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

us 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<sup>9</sup> 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
<b>1. Basic Series:</b> SSRF = SIP Solid State Relay with Integral Heatsink					
<b>2. Line Voltage:</b> 240 = 12 - 280 VAC 480 = 48 - 660 VAC					
<b>3. Input Type &amp; Voltage:</b> D = 3 - 15VDC (240V output types) or 4 - 15VDC (480V output types)					
<b>4. Maximum Switching Rating/Output:</b> 25 = 25.0A rms (with forced air cooling)					
<b>5. Options:</b> 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

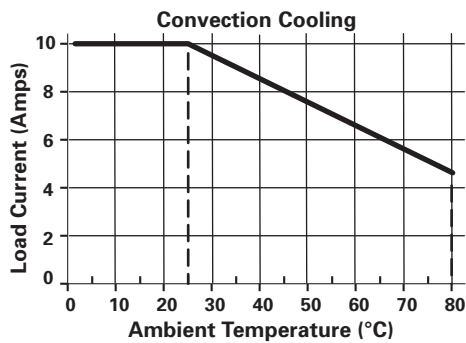
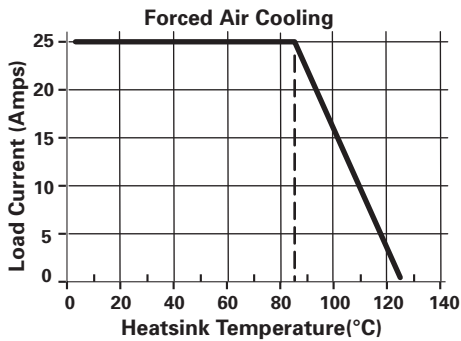
Parameter	Conditions	Units	240V Output, Zero or Random V Turn-on	480V Output Units, Zero or Random V Turn-on
Control Voltage Range V <sub>IN</sub>	@ 25°C	VDC	3-15	4-15
Must Operate Voltage V <sub>IN(OP)</sub> (Min.)	@ 25°C	VDC	3.0	4.0
Must Release Voltage V <sub>IN(REL)</sub> (Min.)	@ 25°C	VDC	1.0	1.0
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)**

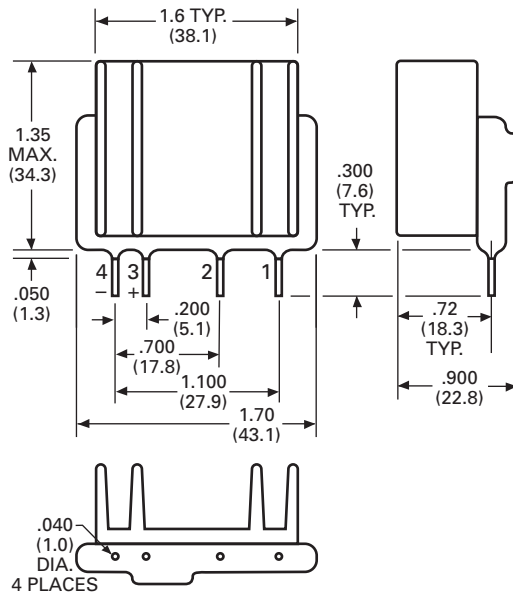
Parameter	Conditions	Units	240V Nom. Output Units	480V Nom. Output Units
Load Voltage Range $V_L$	f = 47-63 Hz.	V rms	12-280	48-660
Repetitive Blocking Voltage (Min.)		V peak	±600	±1200
Load Current Range $I_L^*$	Max. Heatsink Temp. 85°C	A rms	.06-25.0 (Forced Air Cooling) .06-10.0 (Convection Cooling)	.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, $V_L = 280V_{rms}$	mA rms	0.1	0.1
On-State Voltage Drop (Max.)	$I_L = Max.$	V peak	1.6	1.6
Static dv/dt (Off-State) (Min.)	$V_L = Max.$	V/μs	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.)	$I_L = Max.$		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

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