

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.
- 4000V rms optical isolation.
- Pinout compatible with OAC or OACM series output modules.

Engineering Data

- Form:** 1 Form A (SPST-NO).
- Duty:** Continuous.
- Isolation:** 4000V rms input-to-output-to-ground.
- Insulation Resistance:** 10⁹ 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. (25g).

Ordering Information

Typical 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(OP)} (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

SSRF Series (Continued)

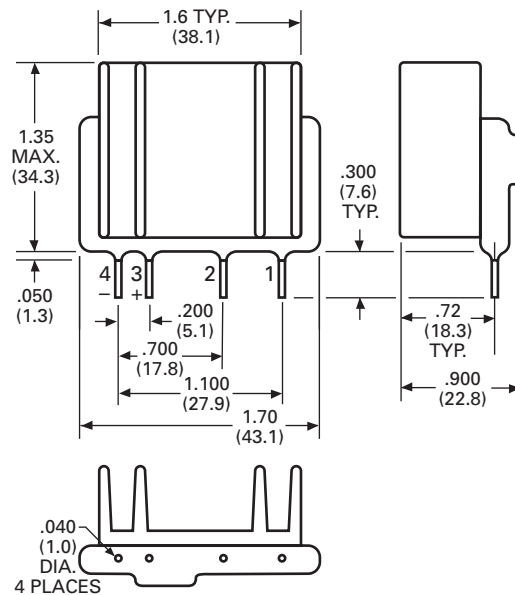
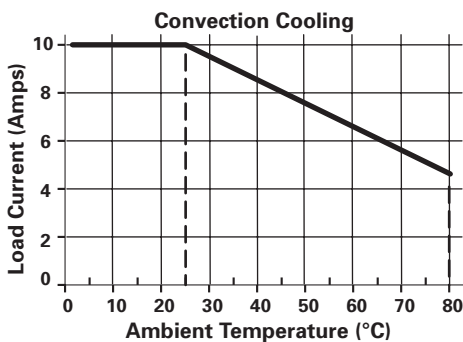
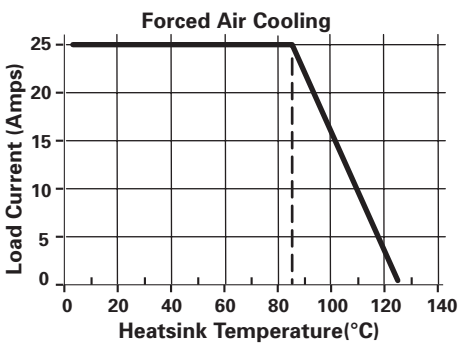
Output Specifications (@ 25° C, unless otherwise specified)

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.)	$I_L = \text{Max.}$	V peak	1.6	1.6
Static dv/dt (Off-State) (Min.)	$V_L = \text{Max.}$	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 ² 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