



**SSR3 Series**

**Three Phase Solid State Relay with Motor Reversing**

UL US File E29244 CE

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**

- LED indicator.
- TRIAC output.
- 10, 25, 40A rms versions.
- 50-480Vac output type.
- Zero voltage and random voltage turn-on versions.
- DC input version.
- 4000V rms optical isolation.
- Safety cover to meet IP 20 protection.
- Epoxy filled.
- Transient voltage protection by MOVs externally.
- Panel mountable.
- Positive input interlock system.

**Engineering Data**

- Isolation:** 4000V rms minimum.
- 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:** 16.6 oz. (471g).

Ordering Information	Typical Part Number	SSR3	T	R	-480	D	75	R
<b>1. Basic Series: SSR3 =</b> Three phase solid state relay								
<b>2. Switching:</b> T = TRIAC Output								
<b>3. Direction Options:</b> R = Motor reversing								
<b>4. Line Voltage:</b> 480 = 50 - 480								
<b>5. Input Type &amp; Voltage:</b> D = 4 - 32VDC								
<b>6. Maximum Current Rating:</b> 10=.1-10A rms, mounted to heatsink 25=.1-25A rms, mounted to heatsink 40=.1-40A rms, mounted to heatsink								
<b>7. Options:</b> Blank = Zero voltage turn-on R = Random voltage turn-on (phase controllable)								

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

- SSR3TR-480D10    SSR3TR-480D10R
- SSR3TR-480D25    SSR3TR-480D25R
- SSR3TR-480D40    SSR3TR-480D40R

**Input Specifications**

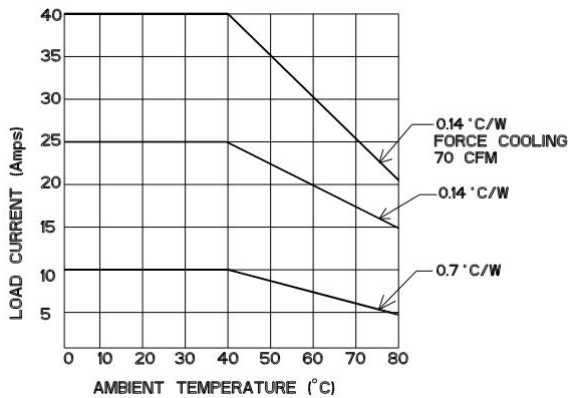
Characteristics	Units	Zero & Random Voltage Turn-on
		10, 25 & 40A Model
Control Voltage Range	V <sub>IN</sub>	4-32
Must Operate Voltage	V <sub>IN(OP)</sub>	4
Must Release Voltage	V <sub>IN(REL)</sub>	1
Input Current	mA	30-80
Max Input Current @ 32Vdc Rated Voltage	mA	80

**SSR3 Series** (Continued)

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

Characteristics	Units	10A Models	25A Models	40A Models
Load Voltage Range, $V_L$	$V_{RMS}$	50-480		
Load Current Range, $I_L$	A	10	25	40
On-State Voltage Drop @ Rated Current	$V_{ac}$	1.6		
Single cycle surge current	A	100	250	400
Peak Off state Voltage	$V_{ac}$	800		
Off- State Leakage Current	mA	5		
Fusing Current, $I^2T$ Rating	$A^2s$	55	340	880
Static dv/dt (Off-State)	$V/\mu s$	400	500	
Zero Turn-On Voltage	$V_{pk}$	25		
Thermal Resistance, (Junction to Case, $R_{J-C}$ )	$^{\circ}C/W$	2.4	0.9	0.6
Turn-On Time (F= 60/50 Hz)	ms	Zero - 10/8.3, Random - 0.1		
Turn-Off Time (F= 60/50 Hz)	ms	Zero - 10/8.3, Random - 10		

**Electrical Characteristics (Thermal Derating Curves)**



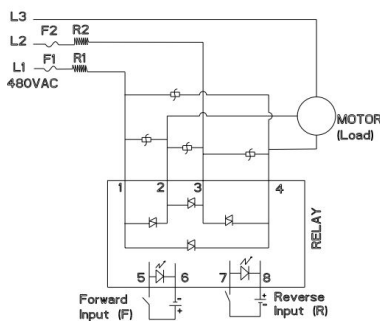
**Heatsink Recommendations**

- 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 #8 screws.

**Thermal Pad**

Product Code : SSR-ACC-TH-003  
Part Number : 2323803-2

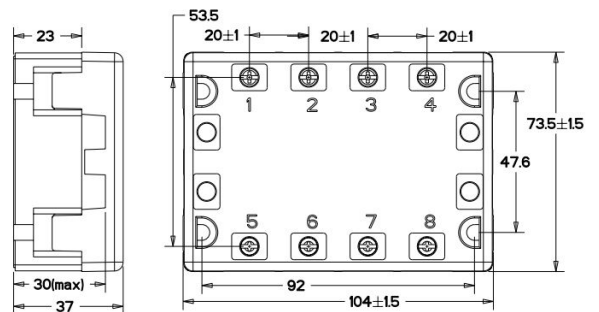
**Operating Diagrams**



R1, R2 : PROTECTION RESISTORS  
F1, F2 : SEMICONDUCTOR FUSES  
MOV : MOV  
POSITIVE INPUT INTERLOCKING INCLUDED

\* Note : Resistors and fuses are selected based on the customer's application. Only MOVs are provided by TE with the relay.

**Outline Dimensions**



\* Overall height dimensions includes with clear cover  
Dimensions in mm

UNSPECIFIED DIMENSION TOLERANCE			
0_6	>6_30	>30_120	>120_320
±0.15	±0.25	±0.65	±1.00

**SSR3 Series** (Continued)

Product Code	Part Number
SSR3TR-480D10	2-2345984-3
SSR3TR-480D25	2-2345984-4
SSR3TR-480D40	2-2345984-5
SSR3TR-480D10R	2-2345984-6
SSR3TR-480D25R	2-2345984-7
SSR3TR-480D40R	2-2345984-8

**Screw details**

Type	Screw size	Ampere	Head type
Input	M3.5/0.6	As per data sheet	Pan head Phillips
Output	M4/0.7	up to 40A	

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