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SSR3 Series

Three Phase Solid State Relay with Motor Reversing

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 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

1. Basic Series: SSR3 = Three phase solid state relay

2. Switching: T = TRIAC Output

3. Direction Options: R = Motor reversing

4. Line Voltage: 480 = 50 - 480

5. Input Type & Voltage: D = 4 - 32VDC

6. Maximum Current Rating:
10=.1-10A rms, mounted to heatsink
25=.1-25A rms, mounted to heatsink
40=.1-40A rms, mounted to heatsink

7. Options: 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_{IN}	4-32
Must Operate Voltage	$V_{IN(OP)}$	4
Must Release Voltage	$V_{IN(REL)}$	1
Input Current	mA	30-80
Max Input Current @ 32Vdc Rated Volltage	mA	80

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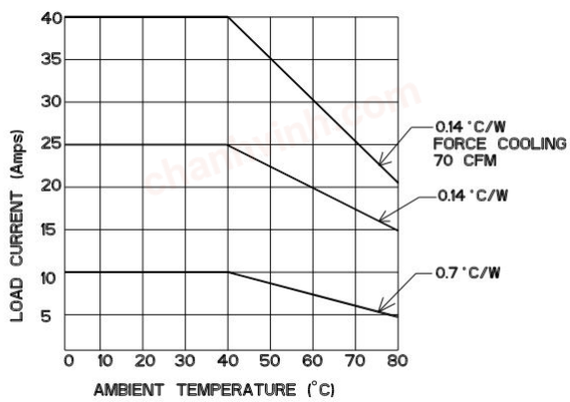
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SSR3 Series (Continued)

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/µs	400	500	
Zero Turn-On Voltage	V_{pk}	25		
Thermal Resistance, (Junction to Case, R_{J-C})	°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)



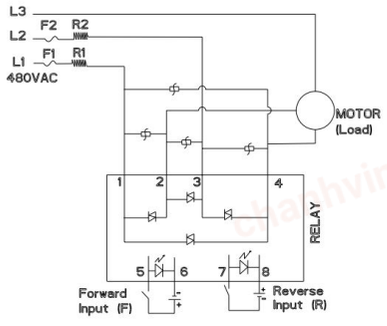
Heatsink Recommendations

- 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

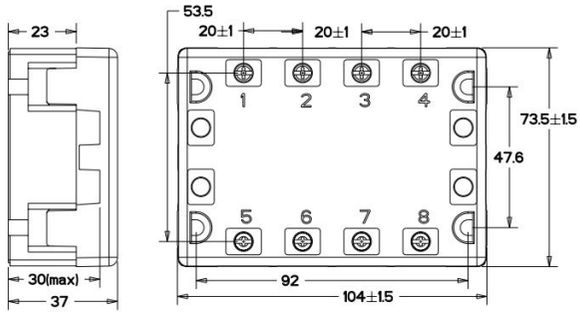
Operating Diagrams



R1,R2 : PROTECTION RESISTORS
F1,F2 : SEMICONDUCTOR FUSES
MOV
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 to 6	>6 to 30	>30 to 120	>120 to 320
±0.15	±0.25	±0.65	±1.00

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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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