SOLID STATE RELAYS

For many years, the main device for controlling power to was to use a contactor. This has gradually changed, and there has been wide acceptance of the use of solid state devices, whether they are solid state relays or power controllers.

Since its introduction, the SSR technology has gained acceptance in many areas that had previously been the sole domain of the EMR or the Contactor. The major growth areas have come from Industrial Process Control applications; particularly heat/cool temperature control, motors, lamps, solenoids, valves, and transformers. The list of applications for the SSR is almost limitless.

The following are typical examples of SSR applications: industrial automation, electronic appliances, industrial appliances, packaging machines, tooling machines, manufacturing equipment, food equipment, security systems, industrial lighting, fire and security systems, dispensing machines, production equipment, on-board power control, traffic control, instrumentation systems, vending machines, test systems, office machines, medical equipment, display lighting, elevator control, metrology equipment, and entertainment lighting.

Pyrosales offers both standard SSRs that can be attached to a heatsink, or a range of slimline SSRs that have an integral heatsink, and can be din-rail mounted where space is an issue.

Standard DC to AC Solid State Relays

Slimline DC to AC Solid State Relays c/w heatsink

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Advantages of using SSRs:

When used correctly in the intended application, the SSR provides many of the characteristics that are often difficult to find in the EMR: a high degree of reliability, long service life, significantly reduced electromagnetic interference, fast response, and high vibration resistance are significant benefits of the SSR. The SSR has no moving parts to wear out or arcing contacts to deteriorate, which are often the primary cause of failure with an EMR.

- Long life (reliability) > 109 operations
- Zero voltage turn on, low EMI / RFI
- Shock and vibration resistant
- Random turn-on, proportional control
- No contact bounce
- Arcless switching
- No acoustical noise
- Microprocessor compatible
- Fast response
- No moving parts

SELECTION GUIDE FOR STANDARD SSR

Example: **SSR – 40 D A – H**

1 2 3 4 5

1 PRODUCT

SSR = Solid State Relay

2 OUTPUT CURRENT

05 =5A
10 = 10A
25 = 25A
40 = 40A

3 INPUT VOLTAGE

D = DC 3 ~ 32V
A = AC 80 ~ 250V
V = Trimmer Pot

4 OUTPUT VOLTAGE

D = DC 5 ~ 60V
A = AC 24 ~ 380V or AC 90 ~ 480V

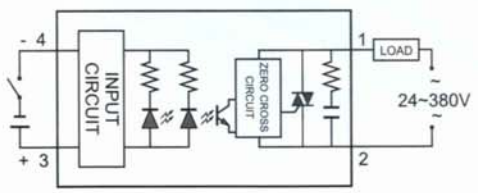
5 OUTPUT VOLTAGE RANGE

H = High Voltage Type < AC 90 ~ 480V>
No Value = Standard Type < AC 24 ~ 380V>

FOTEK SSR SERIES DC TO AC SOLID STATE RELAY

■Specification

Type	Terminal Type					PCB Type
Model	**SSR-10DA**	**SSR-25DA**	**SSR-40DA**	**SSR-25DA-H**	**SSR-40DA-H**	**SSR-P03DA**
Rated Load Current	**10A**	**25A**	**40A**	**25A**	**40A**	**3A**
Input Data						
Operating Voltage	3~32VDC					
Min. ON / OFF Voltage	ON > 2.4V , OFF < 1.0V					
Trigger Current	7.5mA / 12V					
Control Method	Zero Cross Trigger					
Output Data						
Operating Voltage	24~380VAC			90~480VAC		24~480VAC
Min. Black Voltage	600 VAC < Repetive >					
Voltage Drop	1.6 V / 25 C					
Max. Durated Current	135A	275A	410A	275A	410A	135A
Leakage Current	3.0mA	3.0mA	3.0mA	5.0mA	5.0mA	3.0mA
Response Time	ON < 10ms , OFF < 10ms					
General Data						
Dielectric Strength	Over 2.5KVAC / 1min.					
Isolation Strength	Over 50MΩ / 500VDC					
Operating Temperature	-20 C ~+80 C					
Housing Material	Intensive ABS					
Weight	Appr. 105g					Appr. 15g
Connection Diagram						

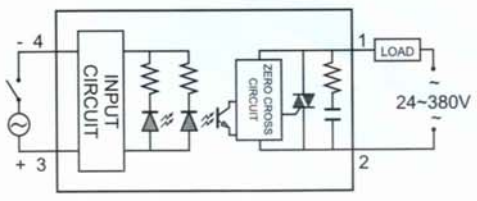


SSR SERIES AC TO AC SOLID STATE RELAY

FOTEK

■Specification

Type	Terminal Type				
Model	**SSR-10AA**	**SSR-25AA**	**SSR-40AA**	**SSR-25AA-H**	**SSR-40AA-H**
Rated Load Current	**10A**	**25A**	**40A**	**25A**	**40A**
Input Data					
Operating Voltage	80~250VAC 50 / 60Hz				
Min. ON / OFF Voltage	ON > 45V , OFF < 35V				
Trigger Current	5.0mA / 110VAC max.				
Control Method	Zero Cross Trigger				
Output Data					
Operating Voltage	24~380VAC			90~480VAC	
Min. Black Voltage	600 VAC < Repetive >				
Voltage Drop	1.6 V / 25 C				
Response Time	ON < 20ms , OFF < 20ms				
Max. Durated Current	135A	275A	410A	275A	410A
Leakage Current	3.0mA	5.0mA	3.0mA	5.0mA	5.0mA
General Data					
Dielectric Strength	Over 2.5KVAC / 1min.				
Isolation Strength	Over 50MΩ / 500VDC				
Operating Temperature	-20 C ~+80 C				
Housing Material	Intensive ABS				
Weight	Appr. 110g				
Connection Diagram					

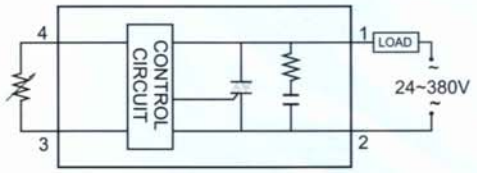


SSR SERIES ADJUSTABLE SOLID STATE RELAY c UL us CE FOTEK

■Specification

Type	Terminal Type		
Model	**SSR-10VA**	**SSR-25VA**	**SSR-40VA**
Rated Load Current	**10A**	**25A**	**40A**
Input Data			
Variable Resistance	Trimmer / 250kΩ to 110V , 500kΩ to 220V		
Control Method	Phase Control		
Output Data			
Operating Voltage	24~380VAC		
Min. Black Voltage	600 VAC < Repetive >		
Voltage Drop	1.6 V / 25 C		
Max. Durated Current	135A	275A	410A
Leakage Current	5.0mA	5.0mA	5.0mA
General Data			
Dielectric Strength	Over 2.5KVAC / 1min.		
Isolation Strength	Over 50MΩ / 500VDC		
Operating Temperature	-20 C ~+80 C		
Housing Material	Intensive PBT		
Weight	Appr. 105g		
Connection Diagram			

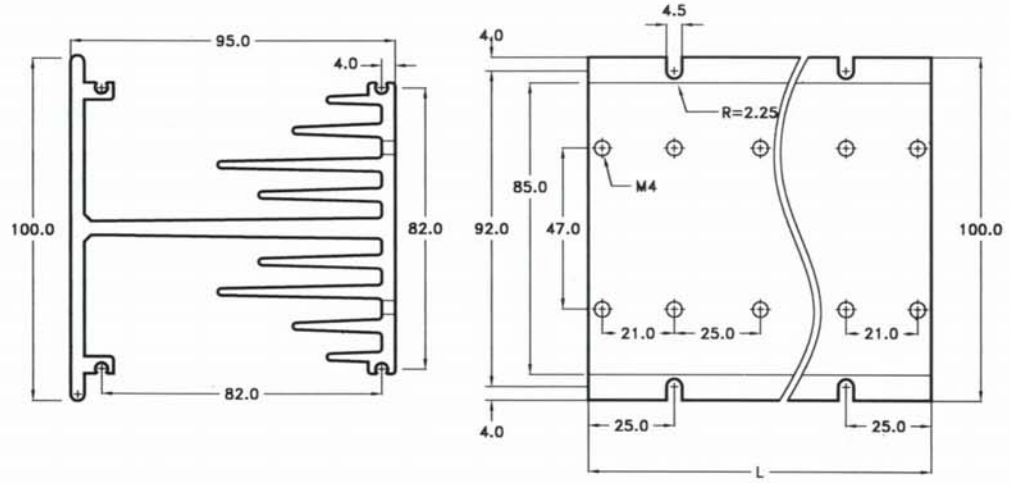
Adjustable SSR



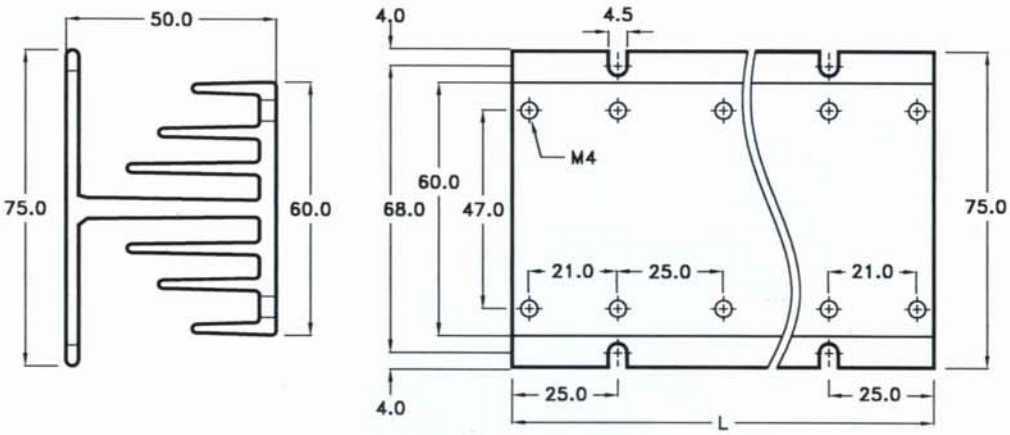
VR : 250KVΩ/110VAC, 500KΩ/220VAC

■ Dimension < Heat Sink >

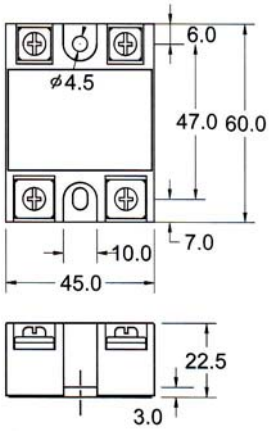
Standard Type



H Type



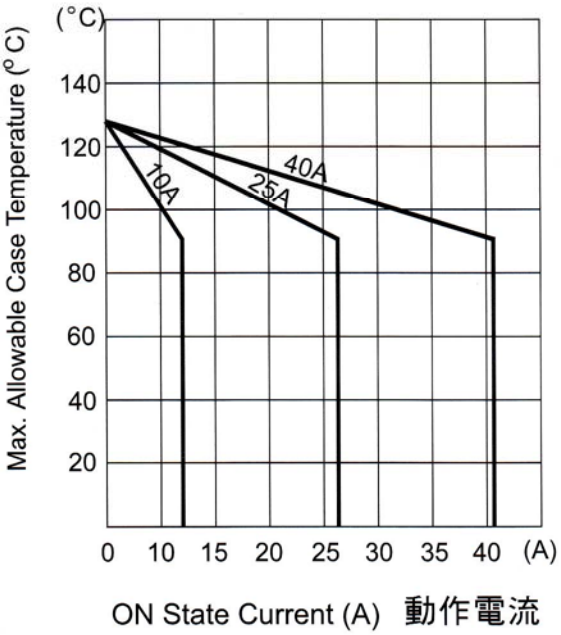
MODEL	LENGTH(L)mm	CURRENT DURATION	PCS OF SSR
HS-50H	50.0	10A MAX.	SINGLE
HS-100H	100.0	25A MAX.	TWICE
HS-150H	150.0	40A MAX.	THREE
HS-200H	200.0		FOUR



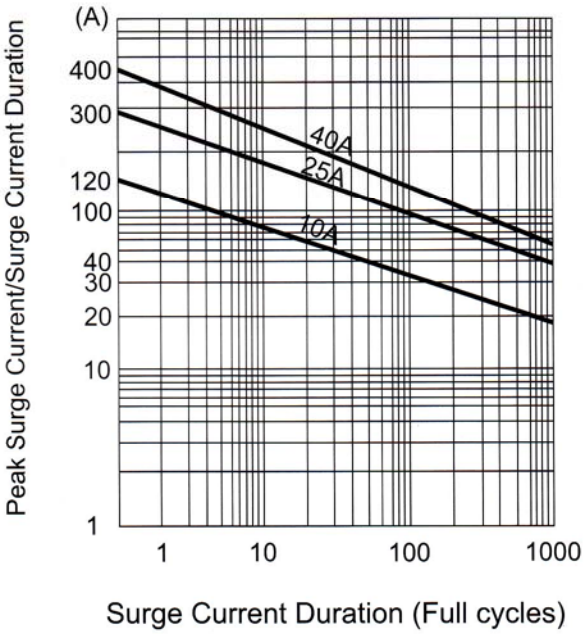
Dimensions for single phase solid state relays

CHARACTERISTICS CURVES

Maximum allowable case temperature

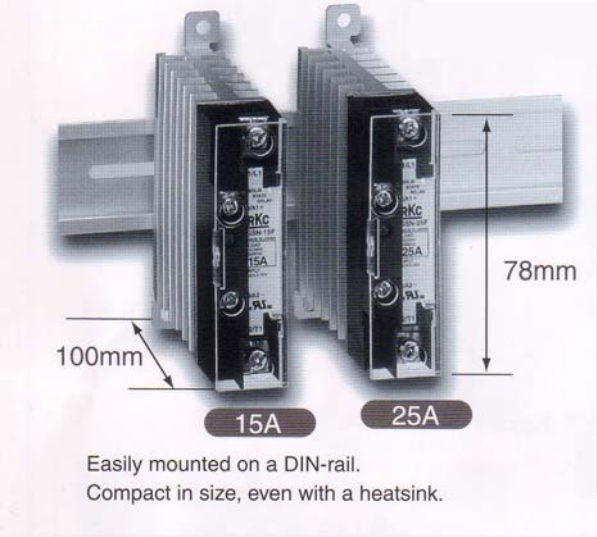


Peal surge current / surge current duration



Pyrosales
Total Sensor Solutions

SLIMLINE DIN RAIL MOUNT SSR

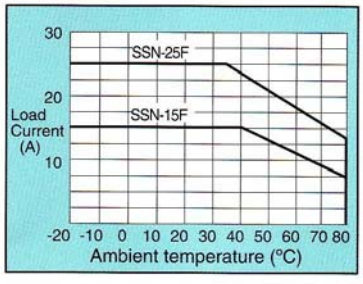


Easily mounted on a DIN-rail.
Compact in size, even with a heatsink.

Specifications

Maximum Load Current	15A AC, 25A AC
Minimum Load Current	100mA AC
Peak 1 Cycle Surge Current	15A AC : 150A (50Hz) 25A AC : 250A (50Hz)
Input Signal	Voltage pulse input (DC), LOW (OFF):0V HIGH (ON):4.5 to 30V
Input Impedance	450 to 3.0kΩ (Built-in constant current circuit 10mA)
Response Time	0.5 cycle or less
Input Protection	Protection of reverse polarity connection
Output Protection	CR protection circuit and Varistor
Output ON Voltage Drop	Less than 1.0V (200V AC)
Load Voltage	50 to 264V AC
Insulation Resistance	More than 100MΩ (500V DC)
Dielectric Strength	2500V AC (one minute)
OFF State Leakage Current	Less than 9mA (240V AC)
Induration Method	Phototriac
Net Weight	Approx. 220g

Temperature characteristics of load current



* Temperature characteristics of load current with close horizontal mounting