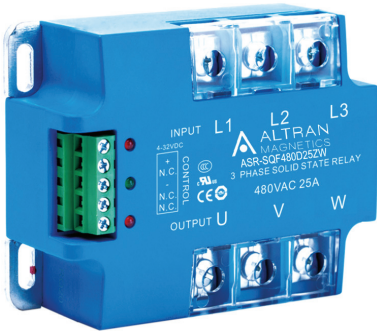


# Solid State Relay

## SQF Series Three-phase AC Output



- Zero-crossing or Random-on Switching
- Rated Load Current:25A,40A,60A,80A
- SCR Output
- Dielectric Strength  $\geq 4000V_{rms}$
- Opto-isolation
- Internal RC/MOV Protection Circuit
- RoHS Compliant

### Product Description

SQF series is three phase AC output solid state relay, control voltage is 90-280VAC or 4-32VDC, load current range are 25A,40A,60A and 80A. Load voltage range 24-660VAC. SCR output. Dielectric strength  $\geq 4000V_{rms}$ (Input/Output),  $\geq 2500V_{rms}$ (Input,Output/Base).

### Product Selection

|     |                                       |            |  |   |   |  |  |   |
|-----|---------------------------------------|------------|--|---|---|--|--|---|
| ASR | -                                     | SQF        | 480                                      | D   | 25  | R  | W  | -P  |
|     | Packing<br>- : Bulk<br>Packing<br>A-Z | SQF Series | Load Voltage<br>480:480VAC<br>600:600VAC | Control<br>Voltage Type<br>D:DC<br>Control<br>A:AC<br>Control | Load<br>Current<br>25:25Amp<br>40:40Amp<br>60:60Amp<br>80:80Amp | Switching<br>Mode<br>Z: Zero<br>Crossing<br>R: Random-on | Control<br>Voltage<br>Y:90-280VAC<br>W:4-32VDC | Thermal Pad<br>Blank:<br>Without<br>-P:With |

### Technical Specification

| INPUT CIRCUIT           |            |              |
|-------------------------|------------|--------------|
| Control Voltage Range   | AC Control | 90-280VAC    |
|                         | DC Control | 4-32VDC      |
| Must Turn-on Voltage    | AC Control | 90VAC        |
|                         | DC Control | 4VDC         |
| Must Turn-off Voltage   | AC Control | 15VAC        |
|                         | DC Control | 1VDC         |
| Maximum Reverse Voltage | DC Control | 32VDC        |
| Maximum Input Current   | AC Control | 30 mA@280VAC |
|                         | DC Control | 35 mA@32VDC  |

# Solid State Relay

## SQF Series Three-phase AC Output

| OUTPUT CIRCUIT                                      |            |                      |      |
|---|------------|----------------------|------|
| Load Voltage Range                                  | 480V       | 24 -530VAC           |      |
|   | 600V       | 24 -660VAC           |      |
| Maximum Turn-on Time                                | AC Control | 40ms                 |      |
|   | DC Control | Zero Crossing        | 10ms |
|   |            | Random-on            | 1ms  |
| Maximum Turn-off Time                               | AC Control | 20ms                 |      |
|   | DC Control | 10ms                 |      |
| Maximum Surge Current (@10ms)                       | 25A        | 300A                 |      |
|   | 40A        | 500A                 |      |
|   | 60A        | 860A                 |      |
|   | 80A        | 1280A                |      |
| Transient Overvoltage                               | 480V       | 1200Vpk              |      |
|   | 600V       | 1600Vpk              |      |
| Maximum I <sup>2</sup> t For Fusing [@10ms]         | 40A        | 1250A <sup>2</sup> S |      |
|   | 60A        | 3698A <sup>2</sup> S |      |
|   | 80A        | 8192A <sup>2</sup> S |      |
| Maximum Off-State Leakage Current [@ Rated Voltage] |            | 200V/μs              |      |
| Maximum On-State Voltage Drop [@ Rated Current]     |            | 1.6Vrms              |      |
| Minimum Off-State dv/dt [@ Maximum Rated Voltage]   |            | ≥500 V/μs            |      |

# Solid State Relay

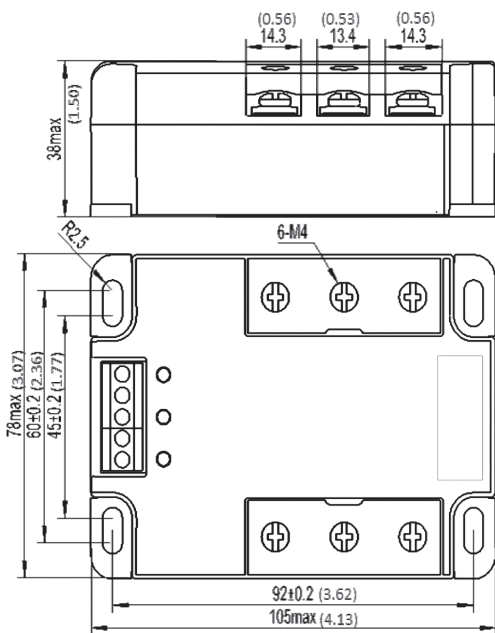
## SQF Series Three-phase AC Output

| GENERAL INFORMATION                 |                   |                |
|-------------------------------------|-------------------|----------------|
| Dielectric Strength [50/60Hz]       | Input/Output      | ≥4000Vrms      |
|                                     | Input,Output/Base | ≥2500Vrms      |
| Ambient Operating Temperature Range |                   | -30°C - +80°C  |
| Ambient Storage Temperature Range   |                   | -30°C - +100°C |
| Weight [Typical]                    | 25A, 40A          | 385g           |
|                                     | 60A,80A           | 520g           |

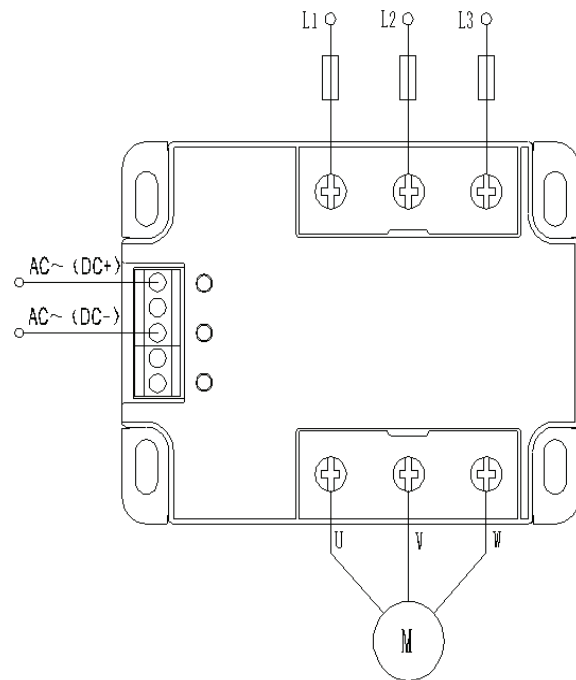
### Application Note:

Suitable for three phase motor control, temperature control, large oven, and etc.

### Installation



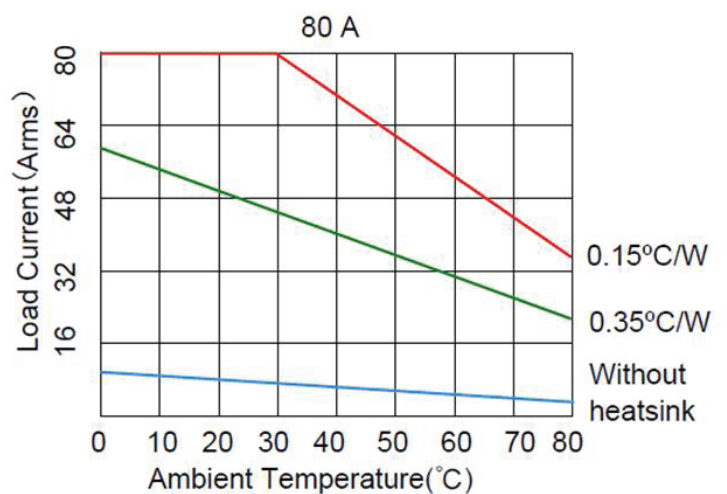
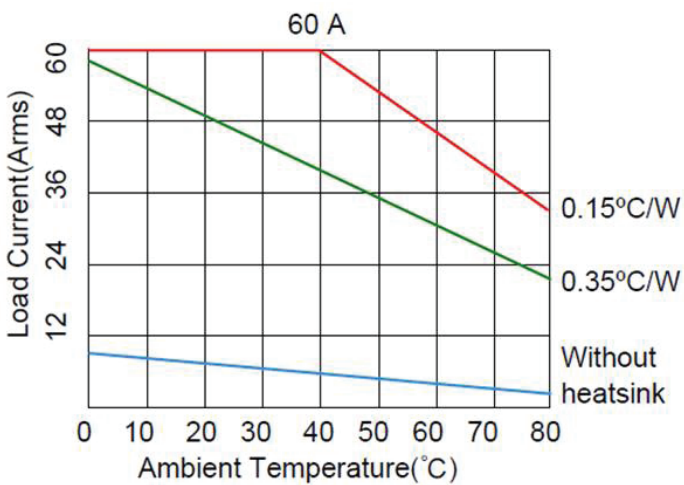
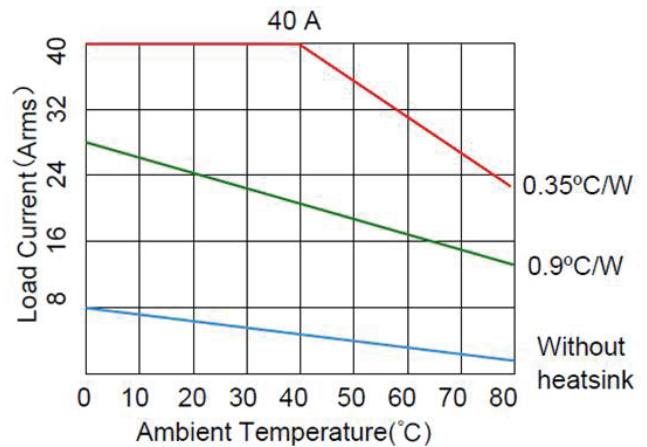
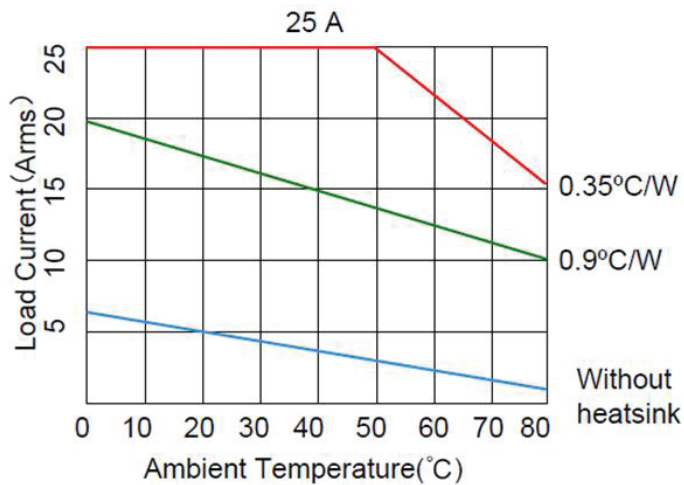
### Wiring Diagram



# Solid State Relay

## SQF Series Three-phase AC Output

### Thermal Curve



### Attentions:

1. If the connection of the load will produce high surge current, please pay attention to the solid state relay and see if it is able to withstand the surge current value.
2. When the operation temperature is high, please consider the derating as per the thermal curve.

### Product Certification



Note: (1) No TÜV for AC input.

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