

# Solid State Relay KSG Series Single Phase AC Output



- Zero crossing switching or random-on
- Ratings from: 2A @48-440VAC
- Control voltage:5VDC, 12VDC,24VDC
- Dielectric strength ≥ 2500VACrms
- High EMC ability
- RoHS compliant
- Internal RC protection circuit

## **Product Description**

KSG series is printed board mounted solid state relay. Load current is 2A,including zero crossing and random-on switching control. Control voltage is 5VDC, 12VDC, 24VDC. Isolation voltage is 2500VACrms. High EMC and high inrush current capbility. Suitable for important industrial applications such as valves control and motor control.

#### **Product Selection**

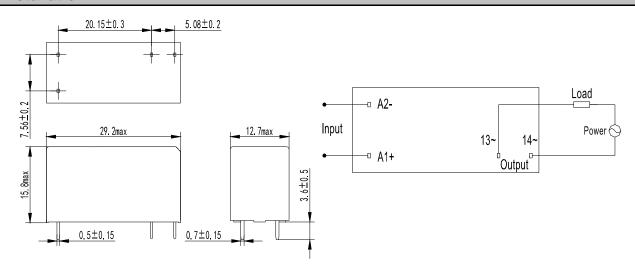
| KSG Load Voltage<br>Series 240:240VAC<br>380:380VAC | D DC Control Le | <b>2</b> pad Current 2:2Amp | Switching Mode None:Zero Crossing R:Random-on |  |  |
|---|-----------------|-----------------------------|---|--|--|
| Control Voltage                                     | 240             |                             | 380   |  |  |
| 5   | KSG2            | 40D2-5                      | KSG380D2-5  |  |  |
|   | KSG240D2R-5     |                             | KSG380D2R-5   |  |  |
| 12  | KSG240D2-12     |                             | KSG380D2-12   |  |  |
|   | KSG240D2R-12    |                             | KSG380D2R-12  |  |  |
| 24  | KSG24           | 0D2-24                      | KSG380D2-24   |  |  |
|   | KSG240          | D2R-24                      | KSG380D2R-24  |  |  |
| Technical Specification                             |                 |                             |   |  |  |
| Input Circuit                                       |                 |                             |   |  |  |
|   | 5               |                             | 4-6VDC  |  |  |
| Control Voltage Range                               | 12              |                             | 9.6-14.4VDC   |  |  |
|   | 24              |                             | 19.2-28.8VDC  |  |  |
|   | 5               |                             | 4VDC  |  |  |
| Minimum Turn-On Voltage                             | 12              |                             | 9.6VDC  |  |  |
|   | 24              |                             | 19.2VDC   |  |  |
|   | 5               |                             | 1VDC  |  |  |
| Minimum Turn-Off Voltage                            | 12              |                             | 2.4VDC  |  |  |
|   | 24              |                             | 4.8VDC  |  |  |
| Maximum Input Current                               |                 |                             | 20mA  |  |  |
| Output Circuit                                      |                 |                             |   |  |  |



|  | 0.401.44.0    | 40.0001/4.0       |
|--|---------------|-------------------|
| Load Voltage Range —                                   | 240VAC        | 48-280VAC         |
|  | 380VAC        | 48-440VAC         |
| Load Current Range                                     | 2A            | 0.1-2A            |
| Maximum Turn-On Time —                                 | Random-On     | 1mS               |
|  | Zero Crossing | 1/2AC Cycle + 1ms |
| Maximum Turn-Off Time                                  |               | 1/2AC Cycle + 1ms |
| Maximum Surge Current                                  |               |                   |
| [@10 ms]   | 2A            | 20A               |
| Transient Overvoltage —                                | 240VAC        | 600Vpk            |
|  | 380VAC        | 800Vpk            |
| Maximum Off-State Leakage<br>Current [@ Rated Voltage] | ·             | 1mA               |
| Maximum On-State Voltage<br>Drop [@ Rated Current]     |               | 1.5Vrms           |
| Minimum Off-State dv/dt[ @ Maximum Rated Voltage]      |               | 200V/μs           |
| General Information                                    |               | ·                 |
| Dielectric Strength,<br>Input/Output (50/60Hz)         |               | ≥2500Vrms         |
| Insulation Resistance                                  |               | 1000MΩ@500VDC     |
| Ambient Operating Temperature Range                    |               | -30°C ∼ +80°C     |
| Ambient Storage<br>Temperature Range                   |               | -30°C ∼ +100°C    |
| Weight (typical)                                       |               | 15g               |
| Application  |               |                   |

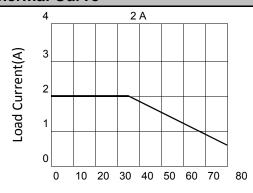
Suitable for motor and valve control.

# Installation





# **Thermal Curve**



Ambient Temperature ( $^{\circ}$ C)

# **Important Notice**

- 1. Solding must be finished within 10 seconds at 250  $^{\circ}$ C, and finished within 5 seconds at 350  $^{\circ}$ C.
- 2. Terminal polarity to ensure proper control, or may damage the product.
- 3. When the ambient temperature is over 40 °C, load current performance will decline.

## **Product Certification**

