

**Solid State Relay (Single Phase AC Output)**

**KSG**

**Features**

- Zero crossing or random-on switching
- Load current: 2A@24-440VAC
- Control voltage: 5VDC, 12VDC, 24VDC
- Opto-isolation:  $\geq 4000\text{VACrms}$
- Internal RC protection circuit
- RoHS compliant



## 1. DESCRIPTION

KSG series is printed board mounted solid state relay. Load current is 2A including zero crossing and random-on switching control. The control voltage is 5VDC, 12VDC and 24VDC. Opto-isolation is 4000VACrms.

## 2. APPLICATION

Suitable for important industrial applications such as valve control and motor control.

## 3. IMPORTANT NOTICE

- 1) Soldering must be finished within 10 seconds at 260℃, and finished within 5 seconds at 350℃.
- 2) Terminal polarity to ensure proper control, or may damage the product.
- 3) Because the relay is a kind of power device, please take full account of the heat dissipation during usage. Please reduce the rated load when working under high temperature.

## 4. TECHNICAL SPECIFICATION

### 1) Input Circuit

|                          |       |              |
|--------------------------|-------|--------------|
| Control Voltage Range    | 5VDC  | 4-6VDC       |
|                          | 12VDC | 9.6-14.4VDC  |
|                          | 24VDC | 19.2-28.8VDC |
| Minimum Turn-on Voltage  | 5VDC  | 4VDC         |
|                          | 12VDC | 9.6VDC       |
|                          | 24VDC | 19.2VDC      |
| Minimum Turn-off Voltage |       | 1VDC         |
| Maximum Input Current    |       | 20mA         |

## 2) Output Circuit

|  |               |           |
|--|---------------|-----------|
| Load Voltage Range                                 | 240VAC        | 24-280VAC |
|  | 380VAC        | 24-440VAC |
| Maximum Transient Voltage                          | 240VAC        | 600Vpk    |
|  | 380VAC        | 800Vpk    |
| Load Current Range                                 |               | 0.1-2A    |
| Maximum Surge Current [@10ms]                      |               | 80A       |
| Maximum Turn-on Time                               | Random-on     | 1ms       |
|  | Zero Crossing | 10ms      |
| Maximum Turn-off Time                              |               | 10ms      |
| Maximum Off-state Leakage Current [@Rated Voltage] |               | 1.5mA     |
| Maximum On-state Voltage Drop[@Rated Current]      |               | 1.5Vrms   |
| Minimum Off-state dv/dt [@Maximum Rated Voltage]   |               | 200V/μs   |

## 3) General Information

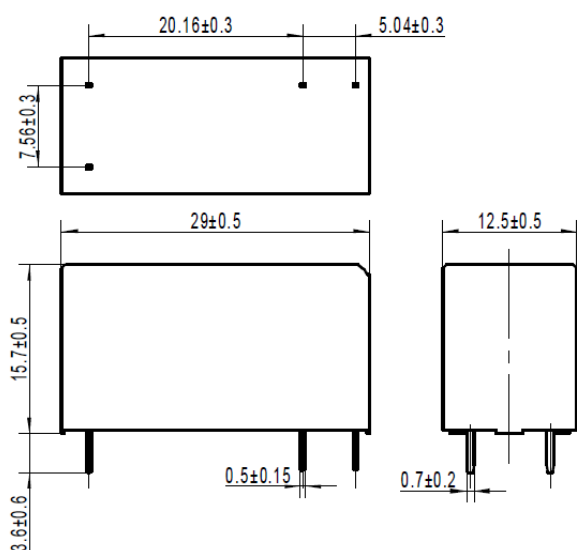
|   |                  |
|---|------------------|
| Dielectric Strength, Input/Output [50/60Hz] | ≥4000VACrms      |
| Ambient Operating Temperature Range         | -30 °C ~ +80 °C  |
| Ambient Storage Temperature Range           | -30 °C ~ +100 °C |
| Weight [Typical]                            | 15g              |

## 5. ORDERING INFORMATION

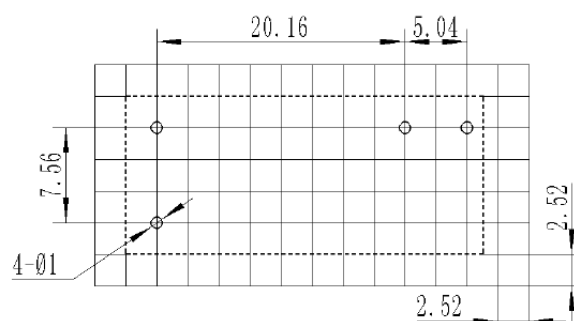
|   |                                     |
|---|-------------------------------------|
| <u>KSG</u> <u>240</u> <u>D</u> <u>2</u> <u>R</u> <u>-5</u><br>①   ②   ③   ④   ⑤   ⑥ |                                     |
| ① Relay Model   | KSG                                 |
| ② Load Voltage  | 240: 240VAC<br>380: 380VAC          |
| ③ Control   | D: DC control                       |
| ④ Load Current  | 2: 2Amp                             |
| ⑤ Switching Mode  | None: Zero crossing<br>R: Random-on |
| ⑥ Control Voltage   | 5: 5VDC<br>12: 12VDC<br>24: 24VDC   |

## 6. INSTALLATION

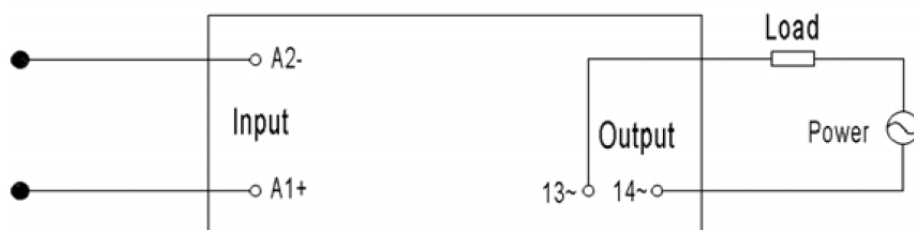
Dimension Figure



PCB Mounted Figure



Wiring Method



## 7. THERMAL CURVE

