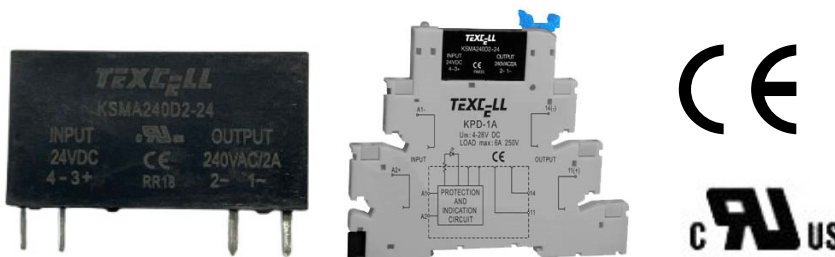


Solid State Relay (Single Phase AC Output)

KSMA

Features

- TTL, COMS drive compatible
- Optoelectronic isolation
- Control voltage: 5VDC, 12VDC, 24VDC, 48VDC, 60VDC
- DIN rail mounted
- Standard footprint package
- Dielectric strength: $\geq 2500\text{VACrms}$
- RoHS compliant



1. DESCRIPTION

KSMA series is AC output solid state relay with small size. The control voltage is 5VDC, 12VDC, 24VDC, 48VDC and 60VDC. Output current is 1A and 2A, output voltage is 240VAC.

2. APPLICATION

Suitable for high density PCB mounted or PLC control applications.

3. IMPORTANT NOTICE

- 1) Consideration of heating dissipation, load current will be decreased without enough ventilation.
- 2) Terminal polarity to ensure proper control, or may damage the product.
- 3) The piezoresistor should be in parallel at the output when the relay transient voltage is too high.

4. TECHNICAL SPECIFICATION

1) Input Circuit

| | | |
|-------------------------|-------|--------------|
| Control Voltage Range | 5VDC | 4-6VDC |
| | 12VDC | 9.6-14.4VDC |
| | 24VDC | 19.2-28.8VDC |
| | 48VDC | 38.4-57.6VDC |
| | 60VDC | 48-72VDC |
| Minimum Turn-on Voltage | 5VDC | 4VDC |
| | 12VDC | 9.6VDC |
| | 24VDC | 19.2VDC |
| | 48VDC | 38.4VDC |
| | 60VDC | 48VDC |

| | | |
|--------------------------|-------------------|--------|
| Minimum Turn-off Voltage | 5VDC | 1VDC |
| | 12, 24, 48, 60VDC | 2.4VDC |
| Maximum Input Current | 5, 12, 24, 48VDC | 16mA |
| | 60VDC | 14mA |

2) Output Circuit

| | | |
|--|---------------|-----------|
| Load Voltage Range | | 48-280VAC |
| Transient Overvoltage | | 600Vpk |
| Load Current Range | 1A | 0.1-1A |
| | 2A | 0.1-2A |
| Maximum Surge Current [@10ms] | 1A | 30A |
| | 2A | 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

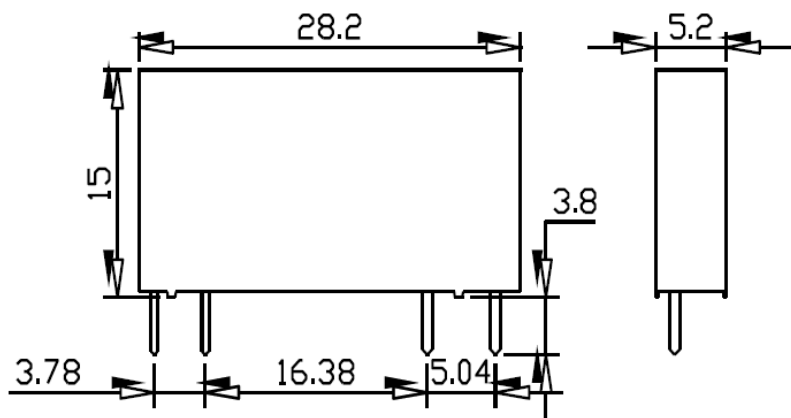
| | | |
|---|------------|---|
| Dielectric Strength, Input/Output [50/60Hz] | | ≥2500VACrms |
| Insulation Resistance | | 1000MΩ [@500VDC] |
| Vibration | | 10-55Hz 1.5mm double-amplitude |
| Shock | | Acceleration 980m/s ² pulse duration 6ms |
| Ambient Operating Temperature Range | | -30 °C ~ +80 °C |
| Ambient Storage Temperature Range | | -30 °C ~ +100 °C |
| Weight [Typical] | KSMA....-. | 4g |
| | KSMA....-D | 30g |

5. ORDERING INFORMATION

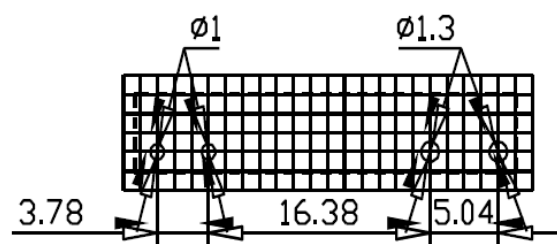
| <u>KSM</u> ① | <u>A</u> ② | <u>240</u> ③ | <u>D</u> ④ | <u>1</u> ⑤ | <u>R</u> ⑥ | <u>-5</u> ⑦ | <u>D</u> ⑧ |
|-------------------|---|-----------------|---------------|---------------|---------------|----------------|---------------|
| ① Relay Model | KSM | | | | | | |
| ② Load Type | A: AC load | | | | | | |
| ③ Load Voltage | 240: 240VAC | | | | | | |
| ④ Control | D: DC control | | | | | | |
| ⑤ Load Current | 1: 1Amp 2: 2Amp | | | | | | |
| ⑥ Switching Mode | None: Zero crossing R: Random-on | | | | | | |
| ⑦ Control Voltage | 5: 5VDC 12: 12VDC 24: 24VDC 48: 48VDC 60: 60VDC | | | | | | |
| ⑧ Socket | None: Without socket D: With socket | | | | | | |

6. INSTALLATION

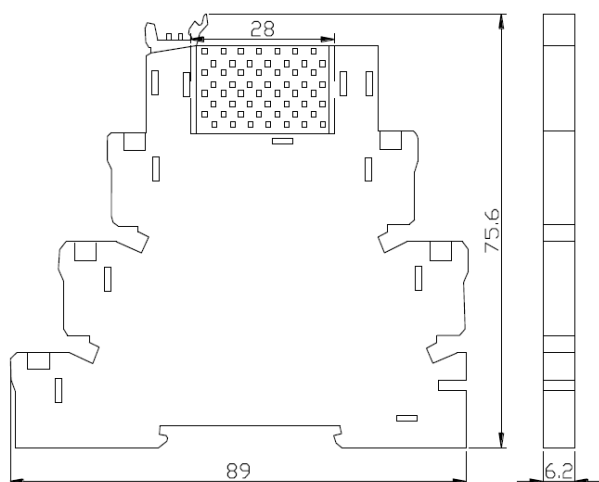
Dimension Figure



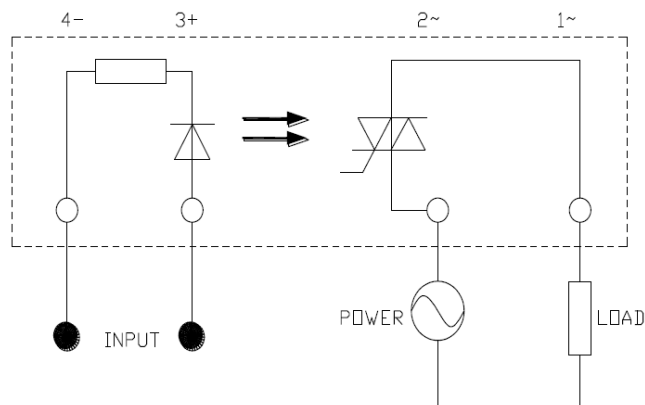
PCB Mounted Figure



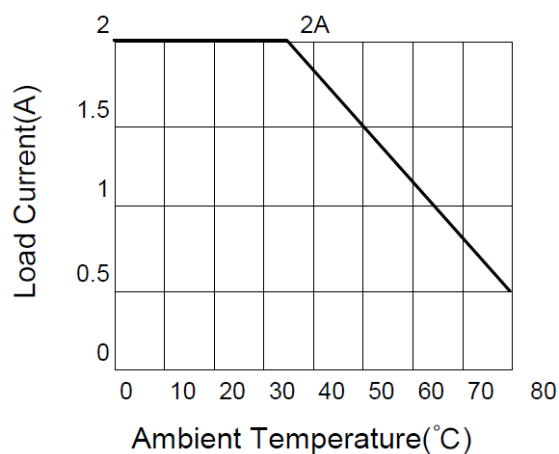
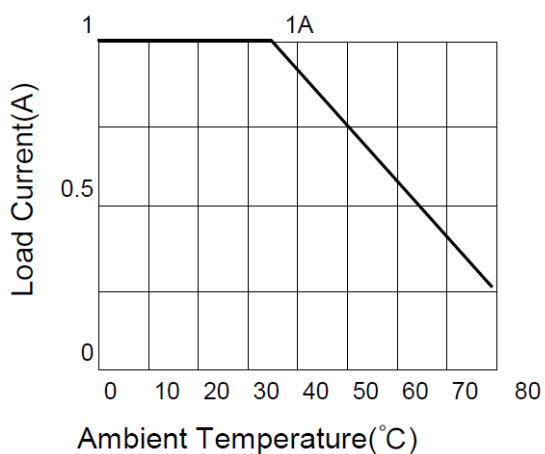
Socket Installation Drawing(Type: KPD-1A)



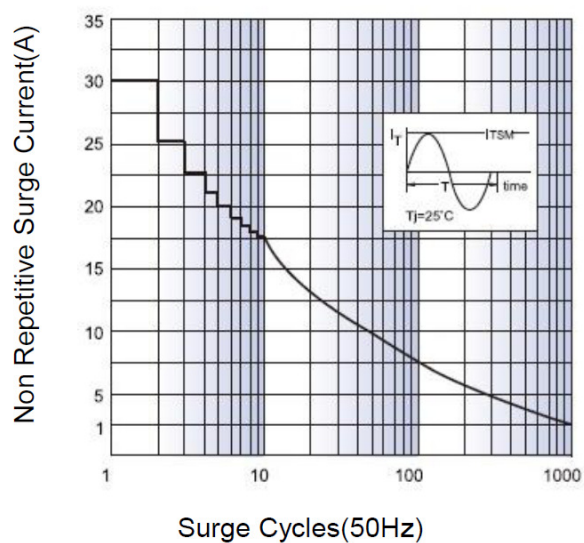
Wiring Method



7. THERMAL CURVE



Non Repetitive Surge Current And Surge Cycle Curve (1A)



Non Repetitive Surge Current And Surge Cycle Curve (2A)

