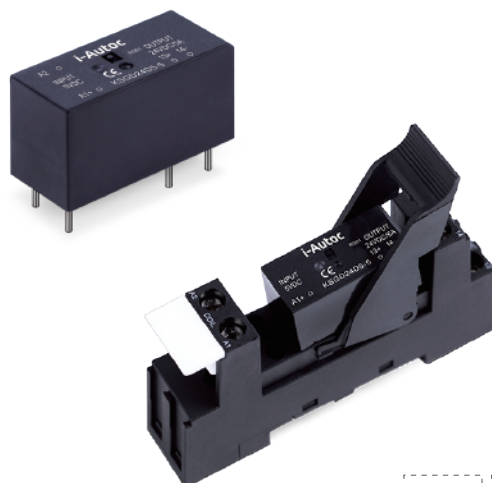


## Product Description

- ◆ MOSFET Output
- ◆ Control Voltage: 5VDC, 12VDC, 24VDC
- ◆ Load Current: 2A, 3A, 4A, 5A
- ◆ Dielectric Strength: 2500Vrms
- ◆ RoHS Compliant
- ◆ Din-rail Mounting Socket Available



## Product Selection

| KSGD        | 48                                           | D                             | 2                                                        | -5                                                                             | D                                                 | (XXX)           |
|-------------|----------------------------------------------|-------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------|-----------------|
| KSGD Series | Load Voltage<br>24: 0-28.8VDC<br>48: 0-36VDC | Control Mode<br>D: DC Control | Load Current<br>2: 2Amp<br>3: 3Amp<br>4: 4Amp<br>5: 5Amp | Control Voltage<br>5: 5VDC<br>12: 12VDC<br>24: 24VDC<br>48: 48VDC<br>60: 60VDC | Socket<br>Blank: without socket<br>D: with socket | Customized Code |

### Available Part Numbers

| Control Mode | 2A             | 3A             | 4A             | 5A             |
|--------------|----------------|----------------|----------------|----------------|
| 5VDC         | KSGD24D2-5(D)  | KSGD24D3-5(D)  | KSGD24D4-5(D)  | KSGD24D5-5(D)  |
|              | KSGD48D2-5(D)  | KSGD48D3-5(D)  | KSGD48D4-5(D)  | KSGD48D5-5(D)  |
| 12VDC        | KSGD24D2-12(D) | KSGD24D3-12(D) | KSGD24D4-12(D) | KSGD24D5-12(D) |
|              | KSGD48D2-12(D) | KSGD48D3-12(D) | KSGD48D4-12(D) | KSGD48D5-12(D) |
| 24VDC        | KSGD24D2-24(D) | KSGD24D3-24(D) | KSGD24D4-24(D) | KSGD24D5-24(D) |
|              | KSGD48D2-24(D) | KSGD48D3-24(D) | KSGD48D4-24(D) | KSGD48D5-24(D) |
| 48VDC        | KSGD24D2-48(D) | KSGD24D3-48(D) | KSGD24D4-48(D) | KSGD24D5-48(D) |
|              | KSGD48D2-48(D) | KSGD48D3-48(D) | KSGD48D4-48(D) | KSGD48D5-48(D) |
| 60VDC        | KSGD24D2-60(D) | KSGD24D3-60(D) | KSGD24D4-60(D) | KSGD24D5-60(D) |
|              | KSGD48D2-60(D) | KSGD48D3-60(D) | KSGD48D4-60(D) | KSGD48D5-60(D) |

## Technical Specifications

| Input Specifications (Ta=25°C) |    |              |
|--------------------------------|----|--------------|
| Control Voltage Range          | 5  | 4-6VDC       |
|                                | 12 | 9.6-14.4VDC  |
|                                | 24 | 19.2-28.8VDC |
|                                | 48 | 38.4-57.6VDC |
|                                | 60 | 48-72VDC     |
| Must Turn-on Voltage           | 5  | 4VDC         |
|                                | 12 | 9.6VDC       |
|                                | 24 | 19.2VDC      |
|                                | 48 | 38.4VDC      |
|                                | 60 | 48VDC        |
| Must Turn-off Voltage          |    | 1VDC         |
| Maximum Input Current          |    | 25mA         |

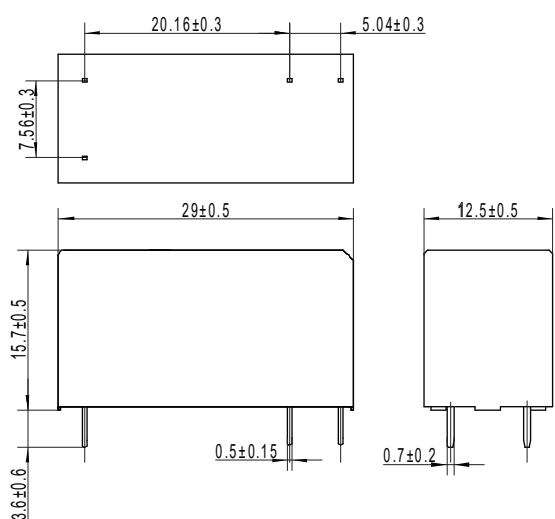
| Output Specifications (Ta=25°C)                    |       |              |
|----------------------------------------------------|-------|--------------|
| Load Voltage Range                                 | 24VDC | 0~28.8VDC    |
|                                                    | 48VDC | 0~48VDC      |
| Load Current Range                                 | 2A    | 0.02~2A      |
|                                                    | 3A    | 0.02~3A      |
|                                                    | 4A    | 0.02~4A      |
|                                                    | 5A    | 0.02~5A      |
| Maximum Surge Current (@10ms)                      | 2A    | 20Apk        |
|                                                    | 3A    | 30Apk        |
|                                                    | 4A    | 40Apk        |
|                                                    | 5A    | 50Apk        |
| Transient Overvoltage                              | 24VDC | 60Vpk        |
|                                                    | 48VDC | 75Vpk        |
| TVS Breakdown Voltage Range                        | 24VDC | 371~41VDC    |
|                                                    | 48VDC | 64.6~71.4VDC |
| Maximum Turn-on Time                               |       | 1ms          |
| Maximum Turn-off Time                              |       | 1ms          |
| Maximum Off-State Leakage Current (@Rated Voltage) |       | 0.1mA        |
| Maximum On-State Voltage Drop (@Rated Current)     |       | 0.3VDC       |

| General Specifications (Ta=25°C)        |                |                |
|-----------------------------------------|----------------|----------------|
| Dielectric Strength (50/60Hz)           | Input/Output   | 2500Vrms       |
| Minimum Insulation Resistance (@500VDC) |                | 1000mΩ         |
| Ambient Temperature Range               |                | -30°C ~ +80°C  |
| Storage Temperature Range               |                | -30°C ~ +100°C |
| Weight (Typical)                        | without Socket | 15g            |
|                                         | with Socket    | 50g            |

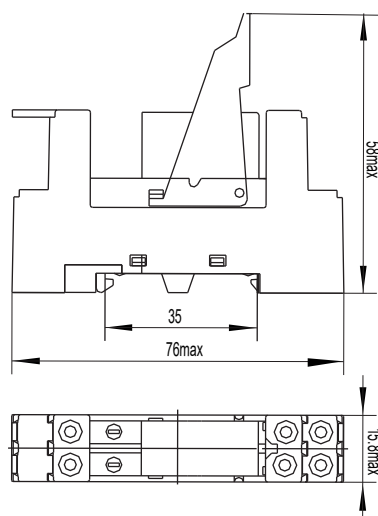
## Applications

Suitable for small power DC motor or electromagnetic valve etc.

## Outline Dimensions



without Socket

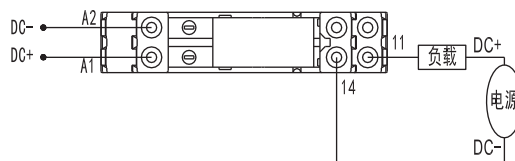


with Socket

## Wiring Diagram

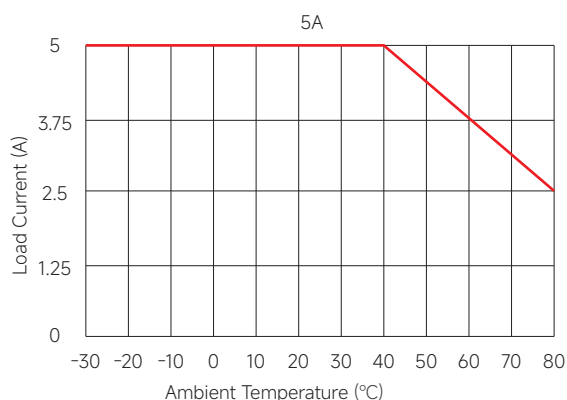
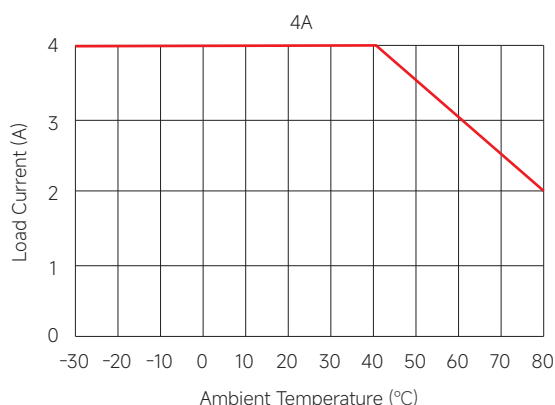
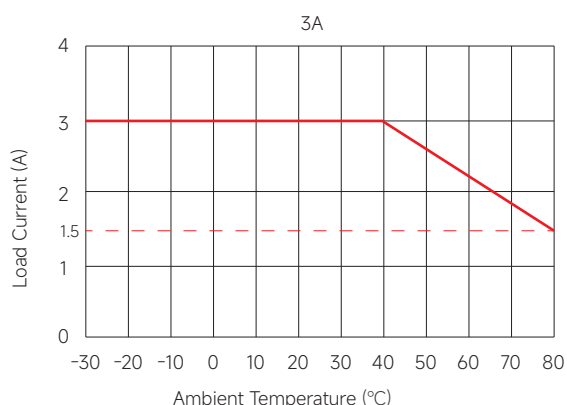
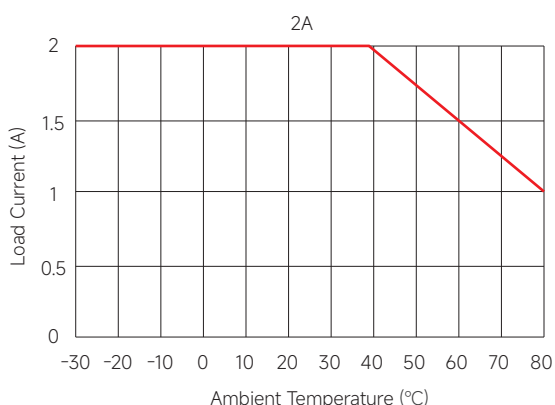


without Socket



with Socket

## Thermal Derating Curve



## General Notes

1. Soldering must be finished within 10 seconds at 260°C, or finished within 5 seconds at 350°C. Otherwise it may cause damage to the relay.
2. Terminal polarity must be observed. Otherwise it may cause damage to the relay.
3. When ambient temperature is above 25°C, the maximum load current decreases. See thermal derating curve.
4. Capacitive load will produce very high surge current at the moment of conduction, which may lead to the damage of solid state relay due to the excessive surge current. Therefore, if the actual load is capacitive, or the load has paralleled large capacitance, it is strongly recommended that NTC should be connected in series in the load loop to suppress surge current in order to avoid damage to the product.
5. For products with a socket, the recommended installation torque for wiring is (0.8~1.2)N · m.



## Warnings

1. The product's side panels may be hot, allow the product to cool before touching.
2. Disconnect all power before installing or working with this equipment.
3. Verify all connections and replace all covers before turning on power.