

### **Product Description**

- Zero-cross Switching
- DC Input
- Load Current: 10A, 20A, 40A
- Internal RC Protection Circuit
- RoHS Compliant



P: Common Anode



Ordering Information





Load Current 10: 10Amp 20: 20Amp 40: 40Amp

| Р                     |  |  |
|-----------------------|--|--|
|                       |  |  |
| Blank: Common Cathode |  |  |



Control Voltage

12: 12VDC

24: 24VDC

 $(\mathbf{X}\mathbf{X})$ 

Customized Code 130: Lead Terminal Blank:Screw Terminal

(1) The part number selection is subject to the following list.

| Information | 10A                | 20A                | 40A                                   |
|-------------|--------------------|--------------------|---------------------------------------|
| 380VAC      | KMC380D10-12       | KMC380D20-12       | KMC380D40-12                          |
|             | KMC380D10-24       | KMC380D20-24       | KMC380D40-24                          |
|             | KMC380D10-12 (130) | KMC380D20-12 (130) | · · · · · · · · · · · · · · · · · · · |
|             | KMC380D10-24 (130) | KMC380D20-24 (130) |                                       |

# General Specifications

| Input Specifications (Ta=25°C)                       |             |                     |  |
|--|-------------|---------------------|--|
| Control Voltage Range                                | 12VDC       | 9.6-14.4VDC         |  |
|  | 24VDC       | 19.2-28.8VDC        |  |
| Must Turn-on Voltage                                 | 12VDC       | 9.6VDC              |  |
|  | 24VDC       | 19.2VDC             |  |
| Must Turn-off Voltage                                | 12VDC       | 2VDC                |  |
|  | 24VDC       | 2VDC                |  |
| Maximum Input Current                                | 12VDC       | 15mA@14.4VDC        |  |
|  | 24VDC       | 25mA@28.8VDC        |  |
|  |             |                     |  |
| Output Specifications (Ta=25°C)                      |             |                     |  |
| Load Voltage Range                                   | 24 - 440VAC |                     |  |
| Maximum Turn-on Time                                 | 10ms        |                     |  |
| Maximum Turn-off Time                                | 10ms        |                     |  |
| Maximum 1 Cycle Surge Current (@10ms)                | 10A         | 100A                |  |
|  | 20A         | 200A                |  |
|  | 40A         | 400A                |  |
| Maximum I²t (@10ms)                                  | 10A         | 50A <sup>2</sup> s  |  |
|  | 20A         | 200A <sup>2</sup> s |  |
|  | 40A         | 800A <sup>2</sup> s |  |
| Maximum Transient Overvoltage                        | 800Vpk      |                     |  |
| Maximum Off-State Leakage Current@Rated Load Voltage | 5mA         |                     |  |
| Maximum On-State Voltage Drop@Rated Current          | 1.6Vrms     |                     |  |
| Minimum Off-State dv/dt@Maximum Rated Voltage        | 200V/µs     |                     |  |

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# **General Specifications**

| General Specifications (Ta=25°C)        |   |          |  |
|---|---|----------|--|
| Dielectric Strength (50/60Hz)           | Input/Output                                    | 4000Vrms |  |
|   | Input, output/Base                              | 2500Vrms |  |
| Minimum Insulation Resistance (@500VDC) | <br> <br>                                       | 1000ΜΩ   |  |
| Ambient Temperature Range               | $-30^\circ	ext{C}$ $	hinspace +80^\circ	ext{C}$ |          |  |
| Storage Temperature Range               | -30°C $\sim$ +100°C                             |          |  |
| Weight (Typical)                        | Screw Terminal                                  | 125g     |  |
|   | Lead Terminal                                   | 100g     |  |

# Applications

#### Single phase motor control

### **Outline Dimensions**



Screw Terminal





Lead Terminal



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### **Thermal Derating Curve**



#### **General Notes**

1. Relay must be mounted to proper sized heat sink based on thermal curves. Thermal grease or a thermal pad must be used between relay.

2. When connecting wiring to SSR please ensure screws are torqued down properly. Recommended torque for input screw is 4.43in-lb/(0.2-0.5) N·m, output screw is (8.67-12.12)in-lb (0.98-1.37)N·m.

- 3. When the operation temperature is above 25 °C, please consider the derating as per the Thermal Derating Curve.
- 4. Please ensure reliable grounding when using the SSR.

5. The forward and reverse switching time must be over 20ms, which can avoid the damage caused by the operation error or the SCR can not be turned off in time during the forward and reverse switching operation.

# 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.

