

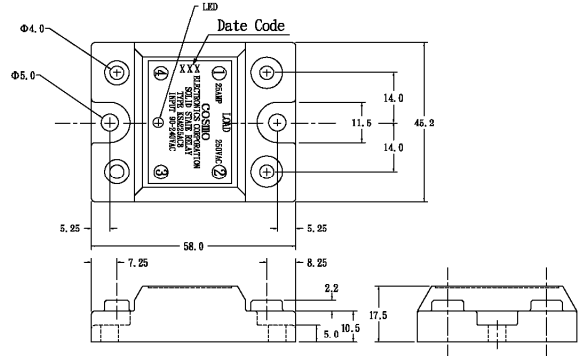
### Features

1. Molded epoxy body.
2. Zero crossing circuit.
3. High input/output insulation.
4. Small size and light weight.
5. Fast reactive speed.
6. Good heat sinking.
7. Normally open.

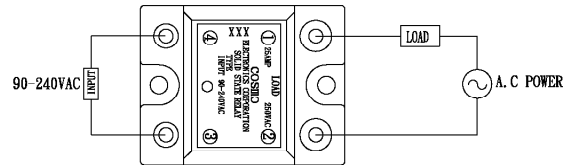
### Applications

1. Household Appliances.
2. Temperature Control System.
3. Industrial Automatic Control.
4. Lighting System.
5. Office Appliances.
6. Factory Appliances.

### Outside Dimension : Unit (mm)



### Schematic : Top View



### Absolute Maximum Ratings

(Ta=25°C)

| Parameter             |   | Symbol             | Rating  | Unit    |
|-----------------------|---|--------------------|---------|---------|
| Input                 | Input Signal Voltage                      | V <sub>IN</sub>    | 100~240 | VAC     |
|                       | Drop-out Voltage                          | V <sub>do</sub>    | 10      | VAC     |
| Output                | RMS on-state current                      | I <sub>T</sub>     | 25      | Arms    |
|                       | Peak one cycle surge current (8.3 ms)     | I <sub>surge</sub> | 250     | A       |
|                       | Repetitive peak-off state Voltage         | V <sub>DRM</sub>   | 600     | V       |
|                       | Operating frequency                       | f                  | 47~70   | Hz      |
|                       | Critical rate of rise of on-state current | di/dt              | 50      | V/μS    |
|                       | Load supply voltage                       | V <sub>out</sub>   | 250     | Vrms AC |
|                       | Isolation Voltage input to output         | V <sub>iso</sub>   | 4000    | Vrms    |
| Operating Temperature |   | T <sub>opr</sub>   | -30~80  | °C      |
| Storage Temperature   |   | T <sub>stg</sub>   | -30~100 | °C      |

### Electrical Characteristics

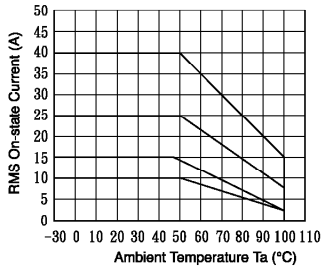
(Ta=25°C)

| Parameter                                      |  | Symbol               | Conditions                  | MIN              | TYP | MAX | Unit  |
|--|--|----------------------|-----------------------------|------------------|-----|-----|-------|
| Input  | Pick-up Voltage                            | V <sub>pu</sub>      | R <sub>IN</sub> =11KΩ       |                  |     | 100 | VAC   |
|  | Input resistance                           | R <sub>in</sub>      |                             |                  | 11  |     | KΩ    |
| Output   | On-state Voltage                           | V <sub>T</sub>       | I <sub>T</sub> =1Arms       |                  |     | 1.5 | Vrms  |
|  | Operating Current Minimum                  | I <sub>op</sub>      | V <sub>out</sub> =240Vrms   | 50               |     |     | mArms |
|  | Leakage Current Open Circuit               | I <sub>leak</sub>    | V <sub>out</sub> =240Vrms   |                  | 3.5 | 8   | mArms |
|  | Critical rate of rise of off-state Voltage | dv/dt                | See Note 1                  | 100              |     |     | V/μS  |
|  | Zero-cross Voltage                         |                      |                             |                  | Yes |     |       |
|  | Load Voltage Rating                        | V <sub>out</sub>     | I <sub>T</sub> =50mArms MIN | 50               |     | 280 | VAC   |
| Minimum trigger current                        |  | I <sub>FT</sub>      | V <sub>DRM</sub> =600V      |                  |     | 25  | mA    |
| Isolation resistance input to output           |  | R <sub>iso</sub>     | DC500V                      | 10 <sup>10</sup> |     |     | Ω     |
| Turn-on time                                   |  | T <sub>on</sub>      | 60Hz AC                     |                  |     | 8.3 | mS    |
| Turn-off time                                  |  | T <sub>off</sub>     | 60Hz AC                     |                  |     | 8.3 | mS    |
| Thermal resistance (between junction and case) |  | R <sub>th(j-c)</sub> |                             |                  |     | 1.3 | °C/W  |

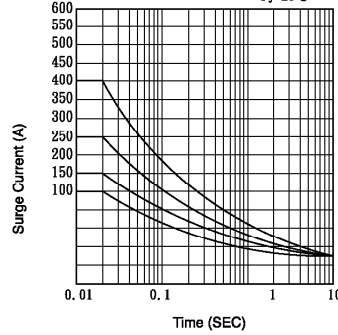
Note1 : Output (dv/dt) protection is provided in all models, and they are designed to switch resistive or inductive loads to 0.2 power factor. The dv/dt rating is based on source impedance of 50 ohms.

Data Curve

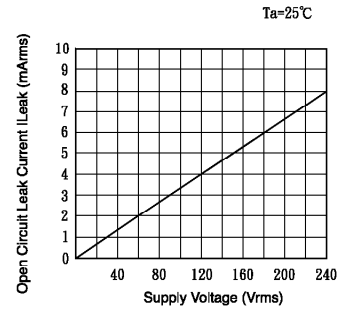
**Fig.1 RMS On-state Current vs. Ambient Temperature**



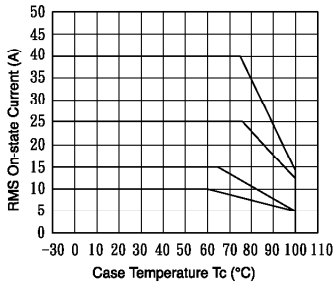
**Fig.2 Surge Current vs. Time**  $f=60\text{Hz}$   
 $T_j=25^\circ\text{C}$



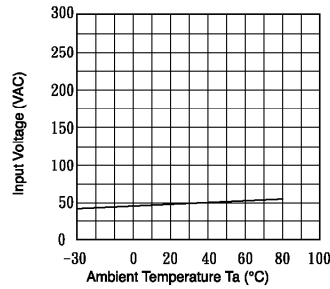
**Fig.3 Open Circuit Leak Current vs. Supply Voltage**



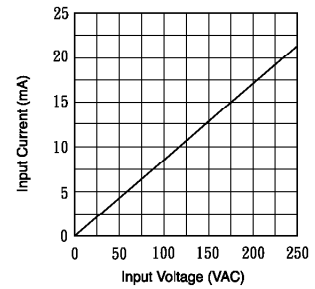
**Fig.4 RMS On-state Current vs. Case Temperature**



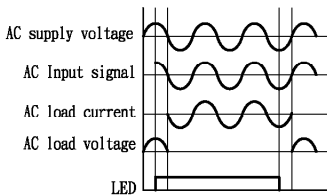
**Fig.5 Input Voltage vs. Ambient Temperature**



**Fig.6 Input Current vs. Input voltage**



**Fig.7 Action waveform**



**Fig.8 WIRING DIAGRAM**

