

## PHOTOVOLTAIC DIODE

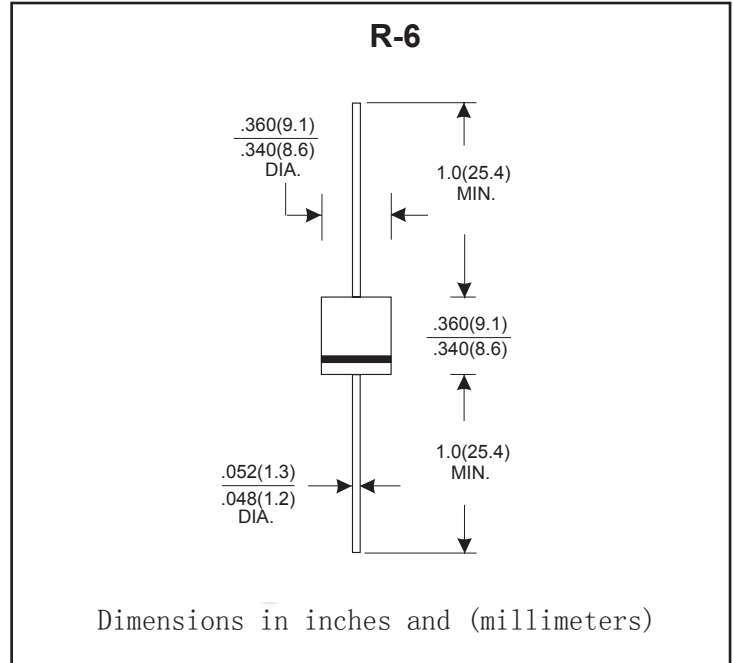
VOLTAGE RANGE: 30--- 100 V    CURRENT: 10.0 A

### FEATURES

- Metal of silicon rectifier ,majority carrier conduction
- Guard ring for transient protection
- Low power loss,high efficiency
- High current capability,low VF
- High surge capacity
- Plastic package has UL flammability classification 94V-0
- For use in low voltage,high frequency inverters,free wheeling,and polarity protection applications

### MECHANICAL DATA

- Case: R-6 molded plastic body
- Lead:Plated axial leads,solderable per MIL- STD-750, method 2026
- Polarity: Color band denotes cathode end
- Mounting Position:Any



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)Single phase,half wave,60 Hz,resistive or inductive load.  
For capacitive load,derate by 20%.

| CHARACTERISTICS  | SYMBOL           | 10SQ030    | 10SQ035 | 10SQ040 | 10SQ045 | 10SQ050 | 10SQ060 | 10SQ080 | 10SQ100 | UNIT |      |
|--|------------------|------------|---------|---------|---------|---------|---------|---------|---------|------|------|
| Maximum Recurrent Peak Reverse Voltage   | V <sub>RRM</sub> | 30         | 35      | 40      | 45      | 50      | 60      | 80      | 100     | V    |      |
| Maximum RMS Voltage  | V <sub>RMS</sub> | 21         | 24.5    | 28      | 31.5    | 35      | 42      | 56      | 70      | V    |      |
| Maximum DC Blocking Voltage  | V <sub>DC</sub>  | 30         | 35      | 40      | 45      | 50      | 60      | 80      | 100     | V    |      |
| Maximum Average Forward Rectified Current@T <sub>c</sub> =95 °C                                      | I(AV)            | 10         |         |         |         |         |         |         |         | A    |      |
| Peak Forward Surge Current 8.3ms single half sine-wave super imposed on rated load(JEDEC Method)     | I <sub>FSM</sub> | 275        |         |         |         |         |         |         |         | A    |      |
| Peak Forward Voltage at 10A DC(Note1)  | V <sub>F</sub>   | 0.55       |         |         | 0.7     |         | 0.8     |         |         | V    |      |
| Maximum DC Reverse Current @T <sub>j</sub> =25°C at Rated DC Bolcking Voltage @T <sub>j</sub> =125°C | I <sub>R</sub>   | 0.1        |         |         |         |         | 50      |         |         |      | mA   |
| Tyical Junction Capacitance (Note2)  | C <sub>J</sub>   | 450        |         |         |         |         |         |         |         |      | PF   |
| Tyical Thermal Resistance (Note3)  | R <sub>θJC</sub> | 3.0        |         |         |         |         |         |         |         |      | °C/w |
| Junction temperature Range in DC forward mode  | T <sub>J</sub>   | -55 to+175 |         |         |         |         | 200     |         |         |      | °C   |
| Storage Temperature Range  | T <sub>S</sub>   | -55 to+175 |         |         |         |         |         |         |         |      | °C   |
| ESD  | VESD             | 15000      |         |         |         |         |         |         |         |      | V    |

NOTES:1.300us Pulse Width, 2%Dudy Cycle.

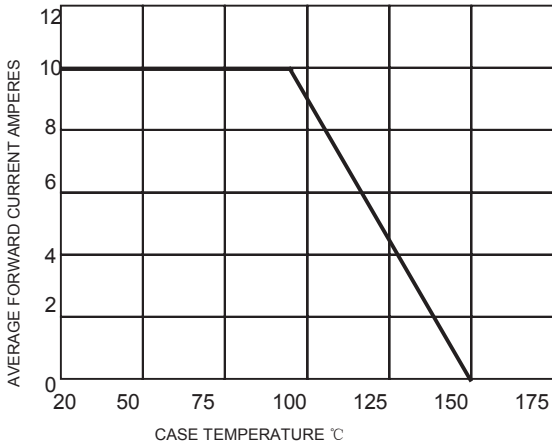
2.Measured at 1.0 MHZ and applied reverse voltage of 4.0VDC.

3.Thermal Resistance Junction to Case.

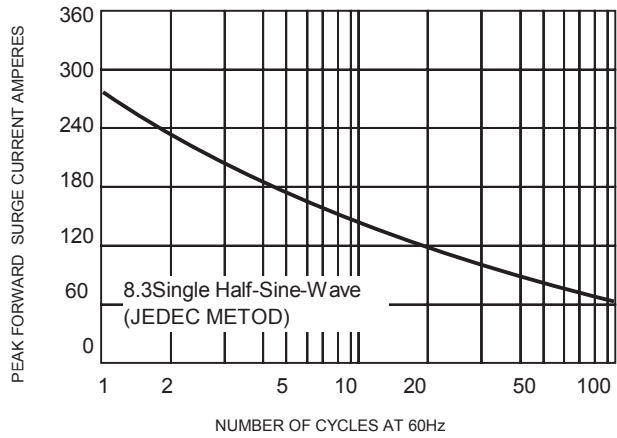


# RATINGS AND CHARACTERISTIC CURVES

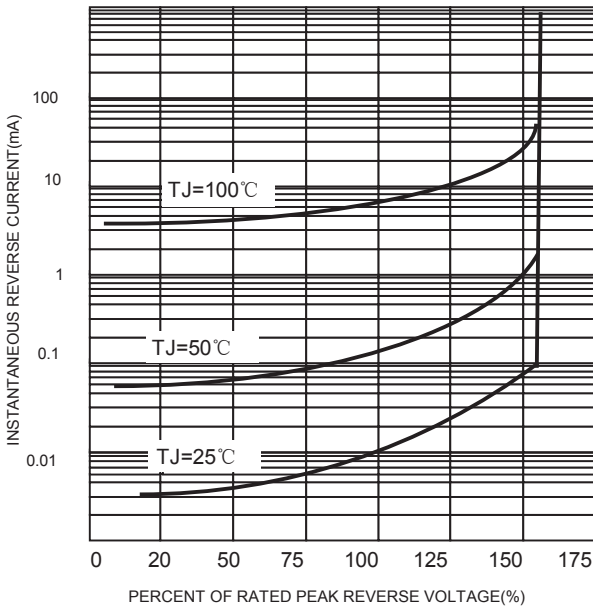
**FIG.1-FORWARD CURRENT DERATING CURVE**



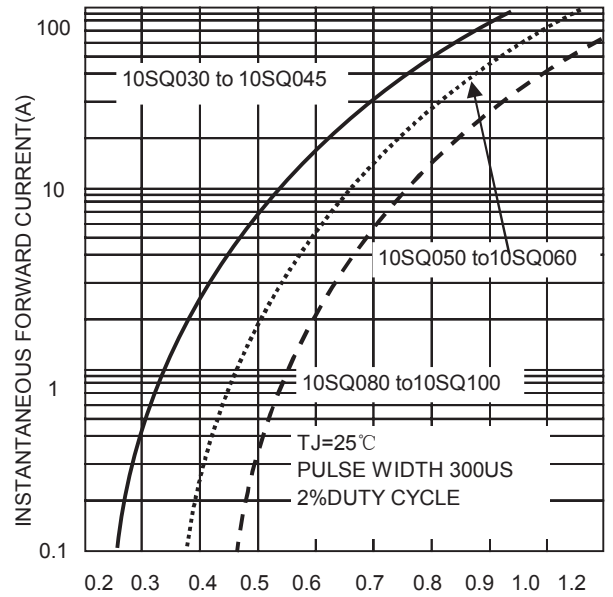
**FIG.2-MAXIMUM NON-REPETITIVE SURGE**



**FIG.3-TYPICAL REVERSE CHARACTERISTICS**



**FIG.4-TYPICAL FORWARD CHARACTERISTICS**



**FIG.5-TYPICAL JUNCTION CAPACITANCE INSTANTANEOUS FORWARD VOLTAGE**

