

PHOTOVOLTAIC DIODE

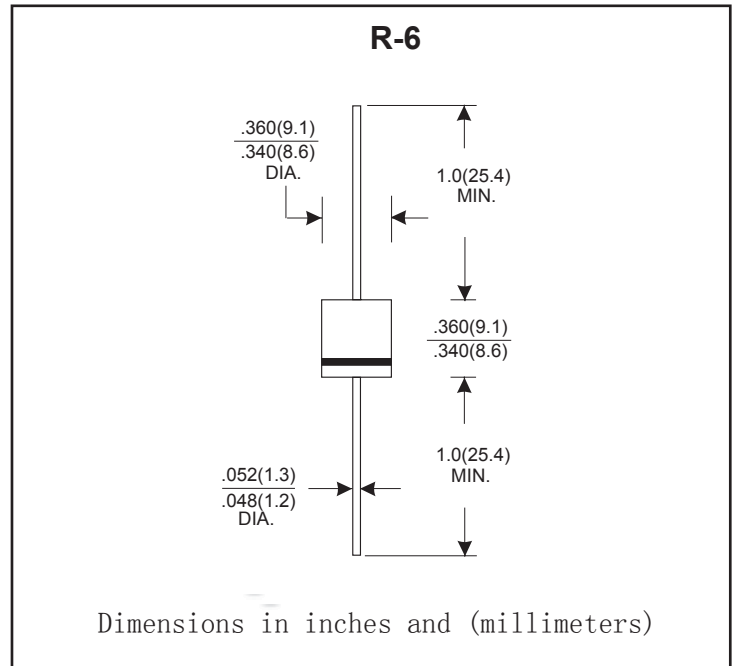
VOLTAGE RANGE: 30--- 100 V CURRENT: 12.0 A

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 | 12SQ030 | 12SQ035 | 12SQ040 | 12SQ045 | 12SQ050 | 12SQ060 | 12SQ080 | 12SQ100 | UNIT |
|--|--------|------------|---------|---------|---------|---------|---------|---------|---------|------|
| Maximum Recurrent Peak Reverse Voltage | VRRM | 30 | 35 | 40 | 45 | 50 | 60 | 80 | 100 | V |
| Maximum RMS Voltage | VRMS | 21 | 24.5 | 28 | 31.5 | 35 | 42 | 56 | 70 | V |
| Maximum DC Blocking Voltage | VDC | 30 | 35 | 40 | 45 | 50 | 60 | 80 | 100 | V |
| Maximum Average Forward Rectified Current @Tc=95 °C | I(AV) | 12 | | | | | | | | A |
| Peak Forward Surge Current 8.3ms single half sine-wave super imposed on rated load(JEDEC Method) | IFSM | 275 | | | | | | | | A |
| Peak Forward Voltage at 12A DC(Note1) | VF | 0.55 | | | 0.7 | | 0.8 | | | V |
| Maximum DC Reverse Current @Tj=25°C at Rated DC Blocking Voltage @Tj=125°C | IR | 0.1 | | | | 50 | | | | mA |
| Typical Junction Capacitance (Note2) | CJ | 450 | | | | | | | | pF |
| Typical Thermal Resistance (Note3) | RθJC | 3.0 | | | | | | | | °C/w |
| Junction temperature Range in DC forward mode | TJ | -55 to+175 | | | | 200 | | | | °C |
| Storage Temperature Range | Ts | -55 to+175 | | | | | | | | °C |
| ESD | VESD | 15000 | | | | | | | | V |

NOTES:1.300us Pulse Width, 2%Duty 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

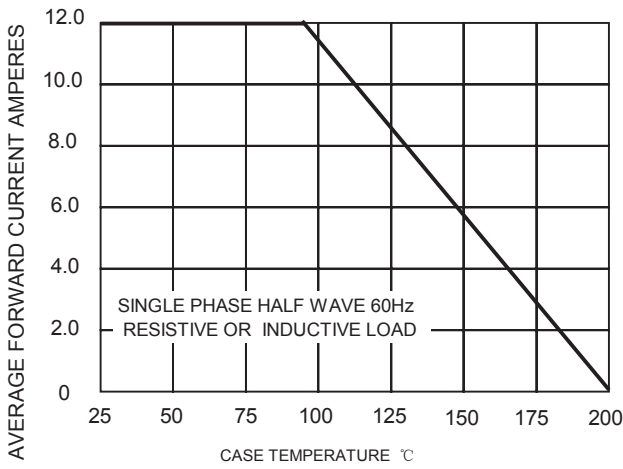


FIG.2-MAXIMUM NON-REPETITIVE SURGE

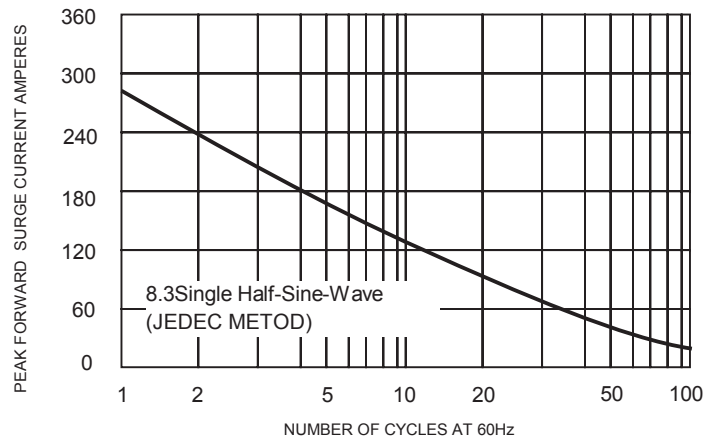


FIG.3-TYPICAL REVER CHARACTERISTICS

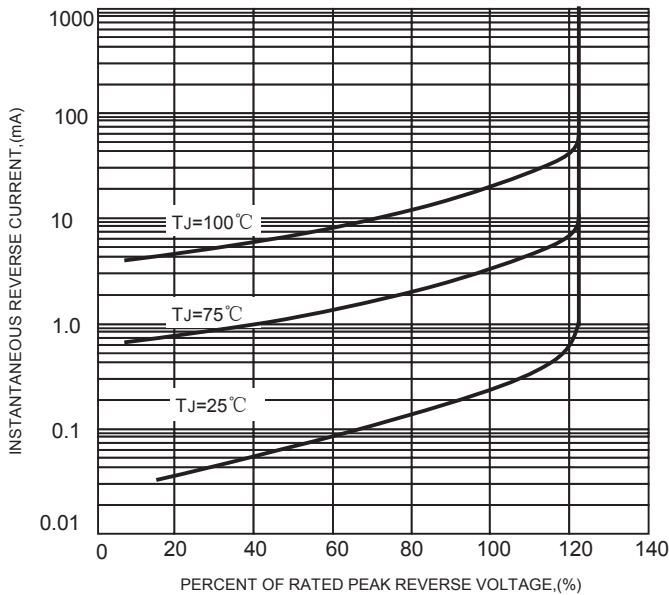


FIG.4-TYPICAL FORWARD CHARACTERISTICS

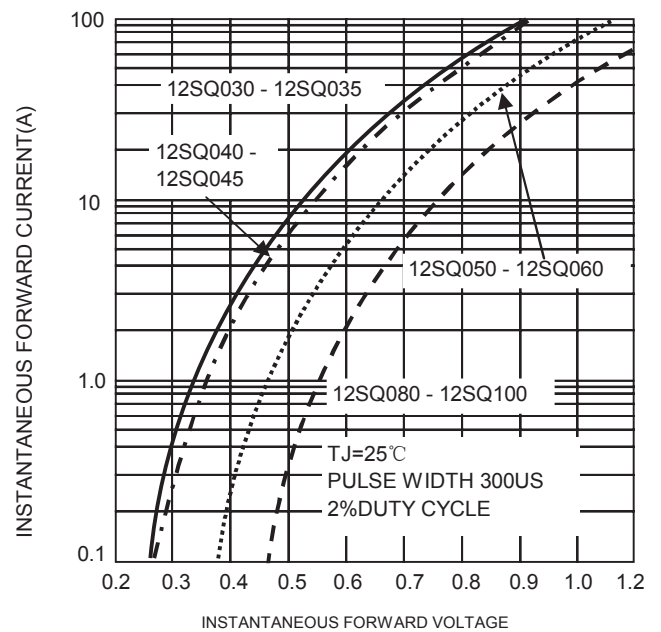


FIG.5-TYPICAL JUNCTION CAPACITANCE

