

## SILICON RECTIFIER

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 10 Amperes**

### FEATURES

- \* High surge current capability
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability
- \* Low lost

### MECHANICAL DATA

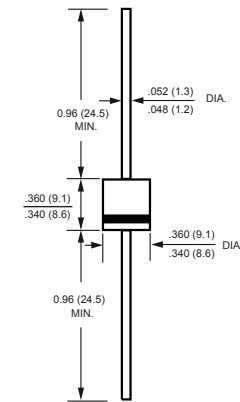
- \* Case: Molded plastic black body
- \* Epoxy: Device has UL flammability classification 94V-O
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 2.08 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



**R-6**



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)

| RATINGS                                                                                                       | SYMBOL          | 10A05        | 10A1 | 10A2 | 10A4 | 10A6 | 10A8 | 10A10 | UNITS |
|---------------------------------------------------------------------------------------------------------------|-----------------|--------------|------|------|------|------|------|-------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                                        | $V_{RRM}$       | 50           | 100  | 200  | 400  | 600  | 800  | 1000  | Volts |
| Maximum RMS Voltage                                                                                           | $V_{RMS}$       | 35           | 70   | 140  | 280  | 420  | 560  | 700   | Volts |
| Maximum DC Blocking Voltage                                                                                   | $V_{DC}$        | 50           | 100  | 200  | 400  | 600  | 800  | 1000  | Volts |
| Maximum Average Forward Rectified Current at TA = 50°C                                                        | $I_O$           | 10           |      |      |      |      |      |       | Amps  |
| Peak Forward Surge Current IFM(surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$       | 400          |      |      |      |      |      |       | Amps  |
| Typical Thermal Resistance (Note 3)                                                                           | $R_{\theta JA}$ | 9            |      |      |      |      |      |       | °C/W  |
| Typical Junction Capacitance (Note 1)                                                                         | $C_J$           | 135          |      |      |      |      |      |       | pF    |
| Operating and Storage Temperature Range                                                                       | $T_J, T_{STG}$  | -55 to + 150 |      |      |      |      |      |       | °C    |

### ELECTRICAL CHARACTERISTICS (@TA=25 °C unless otherwise noted)

| CHARACTERISTICS                                                                                           |                         | SYMBOL         | 10A05 | 10A1 | 10A2 | 10A4 | 10A6 | 10A8 | 10A10 | UNITS |
|-----------------------------------------------------------------------------------------------------------|-------------------------|----------------|-------|------|------|------|------|------|-------|-------|
| Maximum Forward Voltage at 10A DC                                                                         |                         | V <sub>F</sub> | 1.1   |      |      |      |      |      |       | Volts |
| Maximum DC Average Reverse Current at<br>Rated DC Blocking Voltage                                        | @T <sub>A</sub> = 25°C  | I <sub>R</sub> | 10    |      |      |      |      |      |       | uAmps |
|                                                                                                           | @T <sub>A</sub> = 100°C |                | 100   |      |      |      |      |      |       |       |
| Maximum Full Load Reverse Current Average Full Cycle<br>.375" (9.5mm) Lead Length at T <sub>L</sub> =75°C |                         |                |       | 50   |      |      |      |      |       |       |

- NOTES : 1. Measured at 1.0 MHz and applied average voltage of 4.0VDC  
2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".  
3. Thermal Resistance: At 9.5mm lead lengths, PCB mounted.

# RATING AND CHARACTERISTICS CURVES ( 10A05 THRU 10A10 )

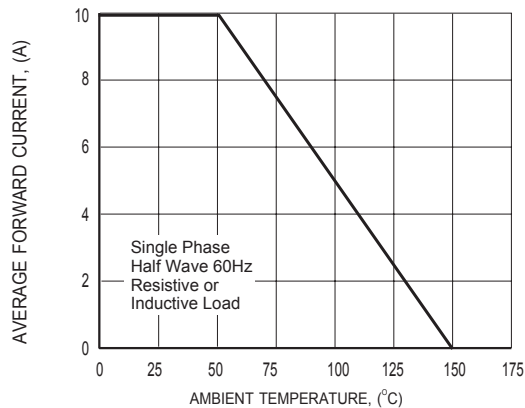


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

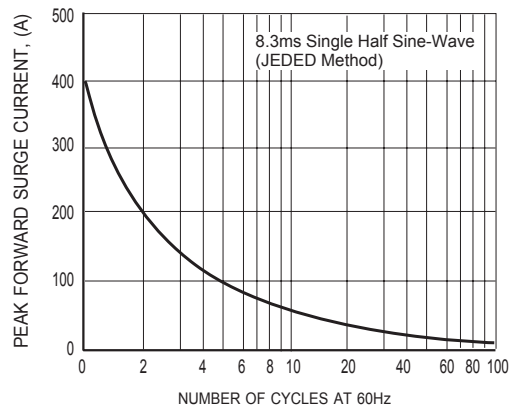


FIG.2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

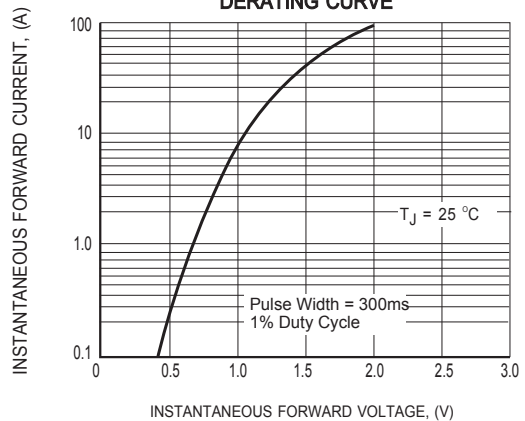


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

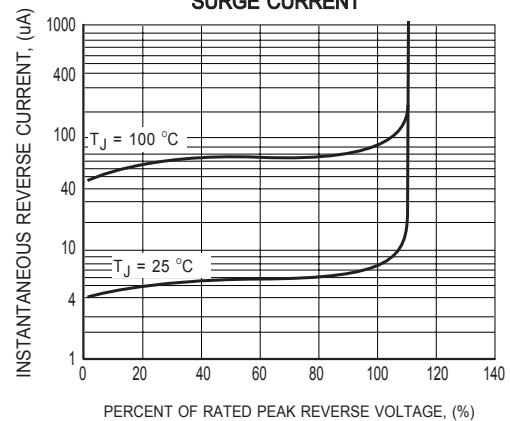


FIG.4 TYPICAL REVERSE CHARACTERISTICS

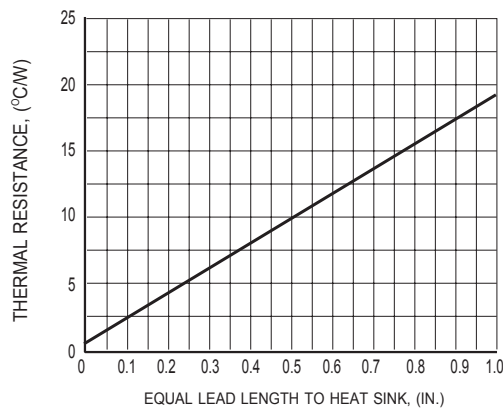


FIG.5 TYPICAL THERMAL RESISTANCE vs. LEAD LENGTH

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