



## AXIAL SILASTIC GUARD JUNCTION STANDARD RECTIFIER

**6A05 THRU 6A10**

**VOLTAGE RANGE  
CURRENT**

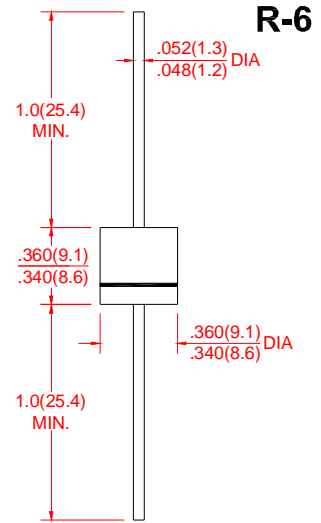
**50 to 1000 Volts  
6.0 Ampere**

### FEATURES

- Low coat construction
- Low forward voltage drop
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:  
260°C/10 secods/.375”(9.5mm)lead length at 5 lbs(2.3kg) tension

### MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.07 ounce, 2.0 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Dimensions in inches and (millimeters)

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

|  | SYMBOLS                   | 6A05        | 6A1 | 6A2 | 6A4 | 6A6 | 6A8 | 6A10 | UNITS              |
|--|---------------------------|-------------|-----|-----|-----|-----|-----|------|--------------------|
| Maximum Repetitive 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<br>0.375”(9.5mm) lead length at $T_A=60^\circ\text{C}$             | $I_{(AV)}$                | 6.0         |     |     |     |     |     |      | Amps               |
| Peak Forward Surge Current<br>8.3mS single half sine wave superimposed on<br>rated load (JEDEC method)       | $I_{FSM}$                 | 300         |     |     |     |     |     |      | Amps               |
| Maximum Instantaneous Forward Voltage @ 6.0A   | $V_F$                     | 0.95        |     |     |     |     |     |      | Volts              |
| Maximum DC Reverse Current at Rated<br>DC Blocking Voltage per element                                       | $T_A = 25^\circ\text{C}$  | 10          |     |     |     |     |     |      | $\mu\text{Amps}$   |
|  | $T_A = 100^\circ\text{C}$ | 1.0         |     |     |     |     |     |      | mAmps              |
| Maximum Full Load Reverse Current, full cycle average<br>0.375”(9.5mm)lead length at $T_L=105^\circ\text{C}$ | $I_{R(AV)}$               | 1.0         |     |     |     |     |     |      | mAmps              |
| Typical Junction Capacitance (Note 1)  | $C_J$                     | 150         |     |     |     |     |     |      | pF                 |
| Typical Thermal Resistance (Note 2)  | $R_{\theta JA}$           | 10          |     |     |     |     |     |      | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range   | $T_J, T_{STG}$            | -55 to +150 |     |     |     |     |     |      | $^\circ\text{C}$   |

#### Notes:

1. Measured at 1.0MHz and Applied Reverse Voltage of 4.0V Volts.
2. Thermal Resistance from junction to Ambient at .375”(9.5mm)lead length, P.C.board mounted with 1.1”× 1.1”(30× 30mm)copper heatsink.



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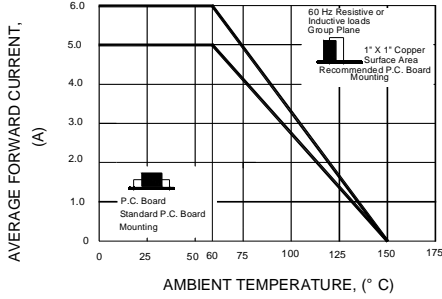
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CURRENT**

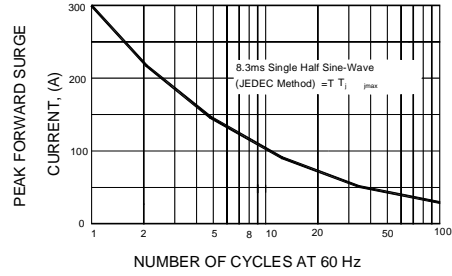
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**RATING AND CHARACTERISTIC CURVES 6A05 Thru 6A10**

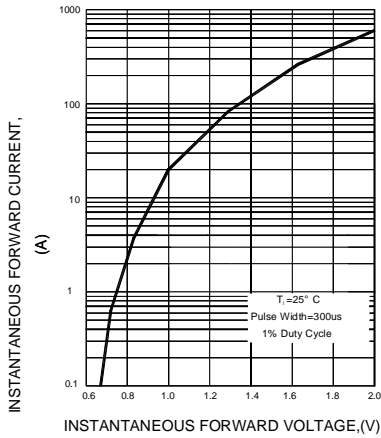
**FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE**



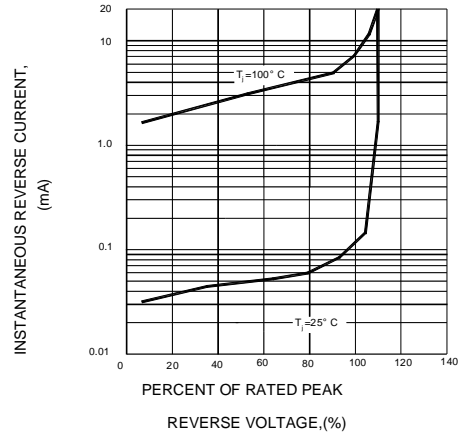
**FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG.4-TYPICAL REVERSE CHARACTERISTICS**



**FIG.5-TYPICAL JUNCTION CAPACITANCE**

