

## FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ Low forward voltage, high current capability
- ◆ Glass passivated chip junction
- ◆ High surge capability
- ◆ Typical  $I_R$  less than 0.1 $\mu$ A
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

## Mechanical Data

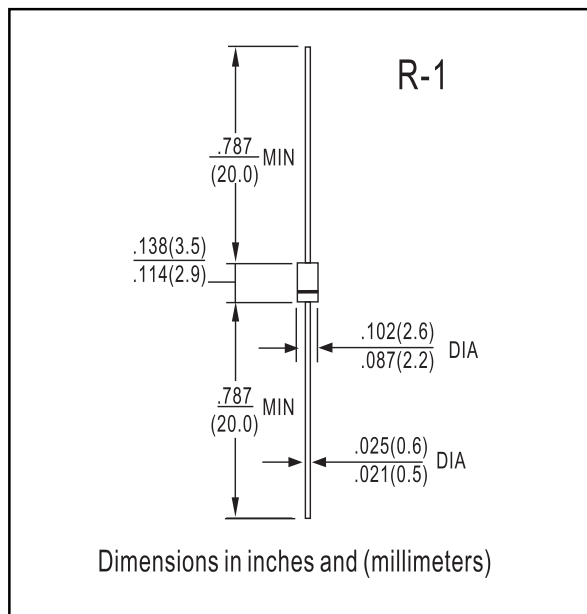
**Case:** Molded plastic over passivated chip

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.0064 ounce, 0.181 gram



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

|   | SYMBOLS                            | MPG<br>06A   | MPG<br>06B | MPG<br>06D | MPG<br>06G | MPG<br>06J | MPG<br>06K | MPG<br>06M | 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 $T_A=25^\circ\text{C}$               | $I_{(AV)}$                         | 1.0          |            |            |            |            |            |            | Amp                |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed<br>on rated load (JEDEC Method)          | $I_{FSM}$                          | 40.0         |            |            |            |            |            |            | Amps               |
| Maximum instantaneous forward voltage at 1.0A   | $V_F$                              | 1.1          |            |            |            |            |            |            | Volts              |
| Maximum DC reverse current<br>$T_A=25^\circ\text{C}$<br>at rated DC blocking voltage<br>$T_A=125^\circ\text{C}$ | $I_R$                              | 5.0<br>50.0  |            |            |            |            |            |            | $\mu$ A            |
| Typical junction capacitance (NOTE 1)   | $C_J$                              | 10.0         |            |            |            |            |            |            | pF                 |
| Typical reverse recovery time (NOTE 2)  | $t_{rr}$                           | 0.6          |            |            |            |            |            |            | $\mu$ s            |
| Typical thermal resistance (NOTE 3)   | $R_{\theta JA}$<br>$R_{\theta JL}$ | 67.0<br>30.0 |            |            |            |            |            |            | $^\circ\text{C/W}$ |
| Operating junction and storage temperature range  | $T_J, T_{STG}$                     | -55 to +150  |            |            |            |            |            |            | $^\circ\text{C}$   |

### NOTES:

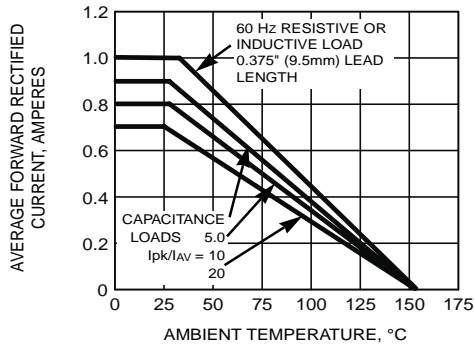
(1) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

(2) Reverse recovery test conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{rr}=0.25A$

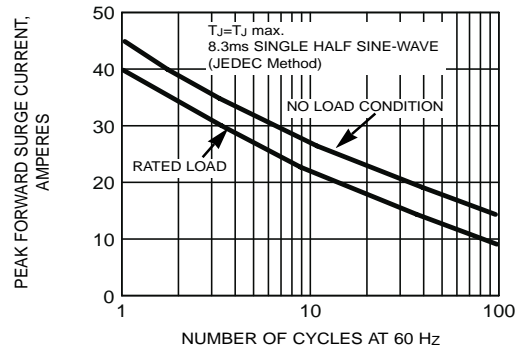
(3) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length,  
P.C.B. mounted with 0.22 x 0.22" (5.5 x 5.5mm) copper pads

**RATINGS AND CHARACTERISTIC CURVES MPG06A THRU MPG06M**

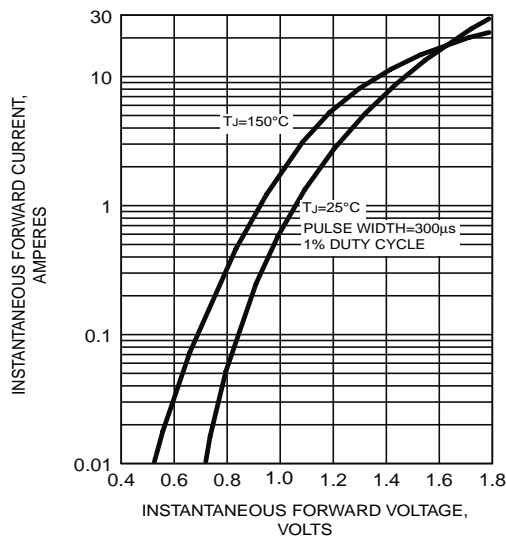
**FIG. 1 - FORWARD CURRENT DERATING CURVE**



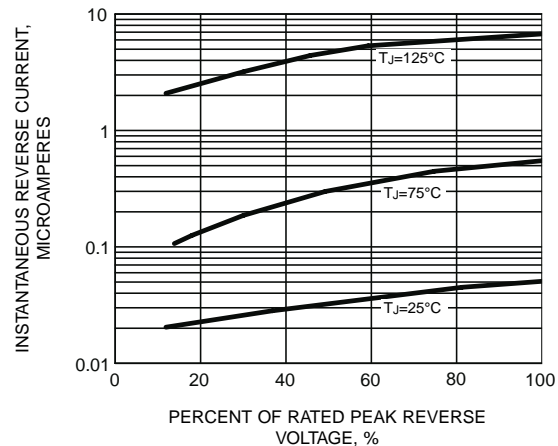
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



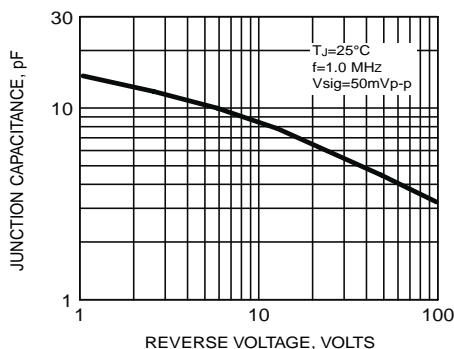
**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**



**FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE**

