

## Features

- For Surface Mount Applications
- Extremely Low Thermal Resistance
- Easy Pick And Place
- High Temp Soldering: 250°C for 10 Seconds At Terminals

## Maximum Ratings

- Operating Temperature: -65°C to +175°C
- Storage Temperature: -65°C to +175°C
- Maximum Thermal Resistance; 15 °C/W Junction To Lead

| Device Marking | Maximum Reccurent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|----------------|----------------------------------------|---------------------|-----------------------------|
| M1             | 50V                                    | 35V                 | 50V                         |
| M2             | 100V                                   | 70V                 | 100V                        |
| M3             | 200V                                   | 140V                | 200V                        |
| M4             | 400V                                   | 280V                | 400V                        |
| M5             | 600V                                   | 420V                | 600V                        |
| M6             | 800V                                   | 560V                | 800V                        |
| M7             | 1000V                                  | 700V                | 1000V                       |

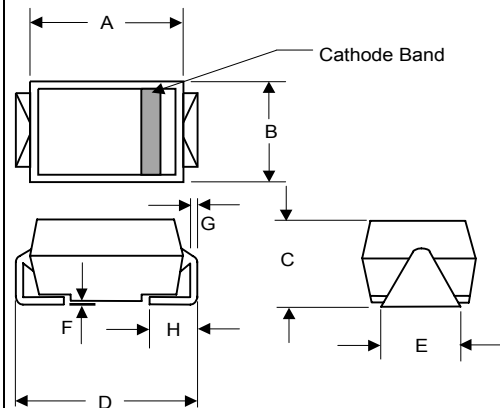
## Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                         |             |              |                                                         |
|---------------------------------------------------------|-------------|--------------|---------------------------------------------------------|
| Average Forward current                                 | $I_{F(AV)}$ | 1.0A         | $T_J = 75^\circ\text{C}$                                |
| Peak Forward Surge Current                              | $I_{FSM}$   | 50A          | 8.3ms, half sine, $T_J = 150^\circ\text{C}$             |
| Maximum Instantaneous Forward Voltage                   | $V_F$       | 1.1V         | $I_{FM} = 1.0\text{A}; T_J = 25^\circ\text{C}^*$        |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$       | 10μA<br>50μA | $T_J = 25^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$   |
| Maximum Reverse Recovery Time                           | $T_{rr}$    | 1.8μs        | $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$ |
| Typical Junction Capacitance                            | $C_J$       | 15pF         | Measured at 1.0MHz, $V_R=4.0\text{V}$                   |

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

## 1 Amp Silicon Rectifier 50 to 1000 Volts

### SMAE



| DIM | INCHES |       | MM    |       | NOTE |
|-----|--------|-------|-------|-------|------|
|     | MIN    | MAX   | MIN   | MAX   |      |
| A   | 0.157  | 0.177 | 3.99  | 4.50  |      |
| B   | 0.100  | 0.110 | 2.54  | 2.80  |      |
| C   | 0.078  | 0.096 | 1.98  | 2.42  |      |
| D   | 0.194  | 0.222 | 4.93  | 5.56  |      |
| E   | 0.055  | 0.071 | 1.40  | 1.80  |      |
| F   |        | 0.008 |       | 0.203 |      |
| G   | 0.006  | 0.012 | 0.152 | 0.305 |      |
| H   | 0.030  | 0.060 | 0.76  | 1.52  |      |

Figure 1  
Typical Forward Characteristics

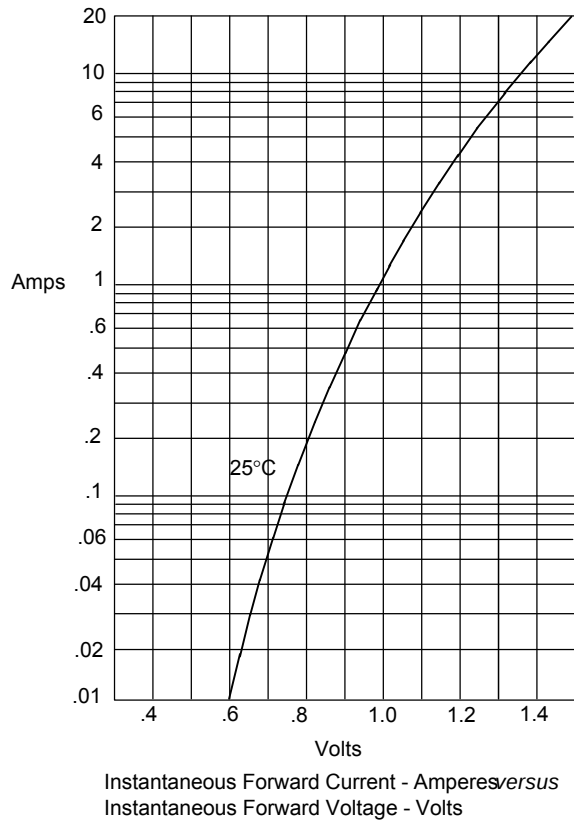
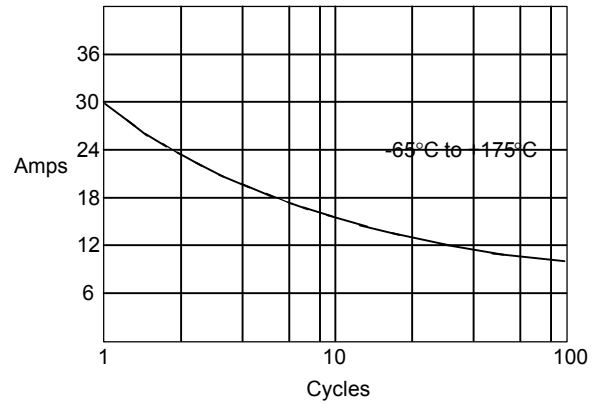
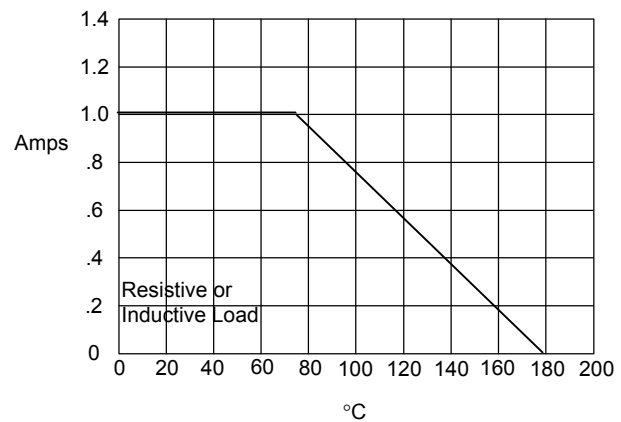


Figure 3  
Maximum Overload Surge Current



Peak Forward Current - Amperes versus Number of Cycles at 60Hz

Figure 4  
Forward Derating Curve



Average Forward Rectified Current - Amperes versus Ambient Temperature - °C

Figure 2  
Junction Capacitance

