

**Features**

- High Conductance
- Fast Switching Speed
- For General Purpose Switching Applications
- Surface Mount Package Ideally Suited for Automatic Insertion
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

**Maximum Ratings**

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance(Note 2):625°C/W Junction to Ambient

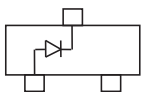
| MCC Part Number | Device Marking | Repetitive Peak Reverse Voltage $V_{RRM}$ | RMS Reverse Voltage $V_{R(RMS)}$ | DC Blocking Voltage $V_R$ |
|-----------------|----------------|---|----------------------------------|---------------------------|
| MMBD4448WT      | KA3            | 75V                                       | 53V                              | 75V                       |

|   |           |                      |                              |
|---|-----------|----------------------|------------------------------|
| Non-Repetitive Peak Reverse Voltage       | $V_{RM}$  | 100V                 |                              |
| Working Peak Reverse Voltage              | $V_{RWM}$ | 75V                  |                              |
| Forward Continuous Current                | $I_{FM}$  | 500mA                | Note2                        |
| Average Rectified Output Current          | $I_o$     | 250mA                |                              |
| Non-Repetitive Peak Forward Surge Current | $I_{FSM}$ | 4.0A<br>2.0A<br>1.0A | @ t=1us<br>@ 8.3ms<br>@ 1.0s |
| Power Dissipation                         | $P_D$     | 200mW                | Note2                        |

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

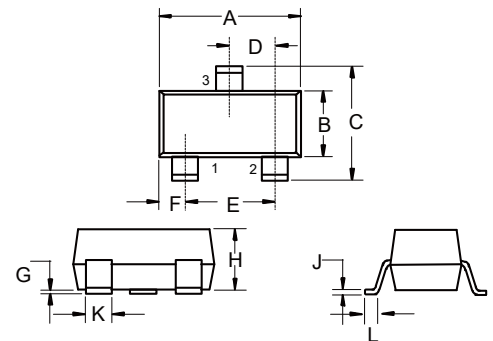
2.Valid Provided That Terminals are Kept at Ambient Temperature

**Internal Structure**



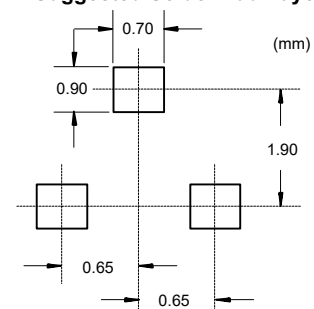
**Surface Mount  
Switching Diode  
200mW**

**SOT-323**



| DIM | DIMENSIONS |       |      |      | NOTE |
|-----|------------|-------|------|------|------|
|     | INCHES     |       | MM   |      |      |
|     | MIN        | MAX   | MIN  | MAX  |      |
| A   | 0.071      | 0.087 | 1.80 | 2.20 |      |
| B   | 0.045      | 0.053 | 1.15 | 1.35 |      |
| C   | 0.083      | 0.096 | 2.10 | 2.45 |      |
| D   | 0.026      |       | 0.65 |      | TYP. |
| E   | 0.047      | 0.055 | 1.20 | 1.40 |      |
| F   | 0.012      | 0.016 | 0.30 | 0.40 |      |
| G   | 0.000      | 0.004 | 0.00 | 0.10 |      |
| H   | 0.035      | 0.044 | 0.90 | 1.10 |      |
| J   | 0.002      | 0.010 | 0.05 | 0.25 |      |
| K   | 0.006      | 0.016 | 0.15 | 0.40 |      |
| L   | 0.010      | 0.018 | 0.26 | 0.46 |      |

**Suggested Solder Pad Layout**



Electrical Characteristics @ 25°C Unless Otherwise Specified

|                               |          |  |  |
|-------------------------------|----------|--|--|
| Forward Voltage Drop          | $V_{FM}$ | 0.62V(Min.)  | $I_F=5.0mA$  |
|                               |          | 0.720V(Max.)<br>0.855V(Max.)<br>1.000V(Max.)<br>1.250V(Max.) | $I_F=5.0mA$<br>$I_F=10.0mA$<br>$I_F=100.0mA$<br>$I_F=150.0mA$                      |
| Maximum Peak Reverse voltage  | $I_{RM}$ | 2.5 $\mu A$<br>50 $\mu A$<br>30 $\mu A$<br>25nA              | $V_R=75V$<br>$V_R=75V, T_j=150^\circ C$<br>$V_R=25V, T_j=150^\circ C$<br>$V_R=20V$ |
| Maximum Junction Capacitance  | $C_J$    | 4.0pF  | $V_R=0.0V, f=1.0MHz$   |
| Maximum Reverse Recovery Time | $t_{rr}$ | 4.0ns  | $I_F=10mA, I_R=10mA$<br>$I_{rr}=0.1 \cdot I_R, R_L=100\Omega$                      |

## Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

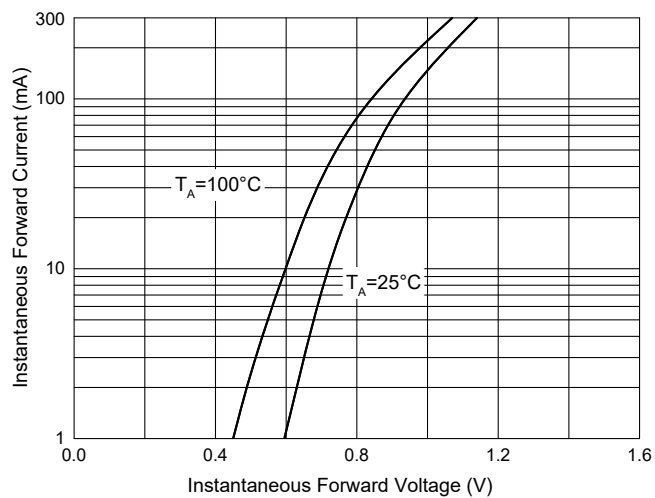


Fig. 2 - Typical Reverse Leakage Characteristics

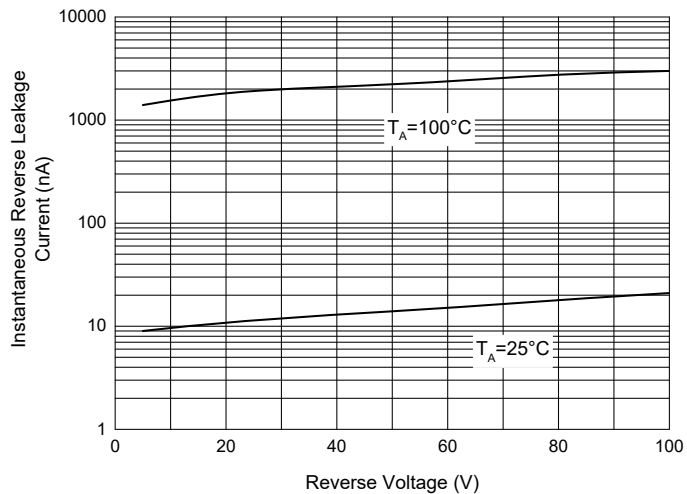
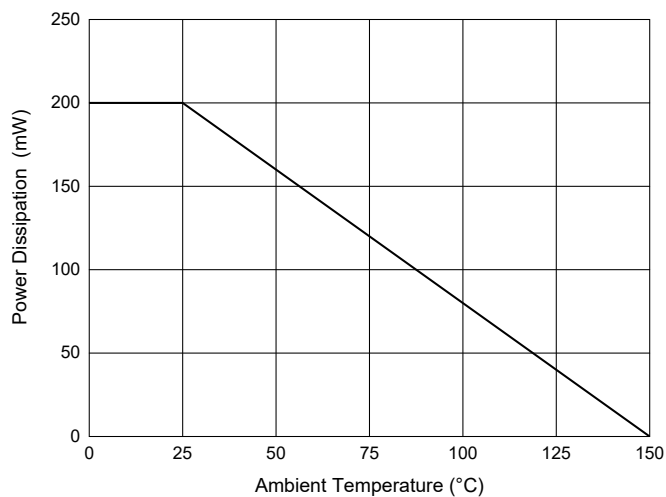


Fig. 3 - Power Derating Curve



## Ordering Information

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

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