



# THE DATASHEET OF MMBD2004SWT-TP



## Features

- Low Current Leakage
- Small Outline Surface Mount Package
- Designed For Applications Requiring High Voltage Capability
- 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)

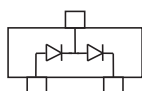
## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C

| MCC Part Number                 | Device Marking | Peak Reverse Voltage $V_{RM}$ | DC Blocking Voltage $V_R$ |
|---------------------------------|----------------|-------------------------------|---------------------------|
| MMBD2004SWT                     | B6D            | 300V                          | 240V                      |
| Continuous Forward Current      | $I_F$          | 225mA                         |                           |
| Forward Surge Current           | $I_{FSM}$      | 4.0A<br>1.0A                  | @t=1us<br>@t=1s           |
| Repetitive Peak Forward Current | $I_{FRM}$      | 625mA                         |                           |
| Power Dissipation               | $P_D$          | 250mW                         |                           |

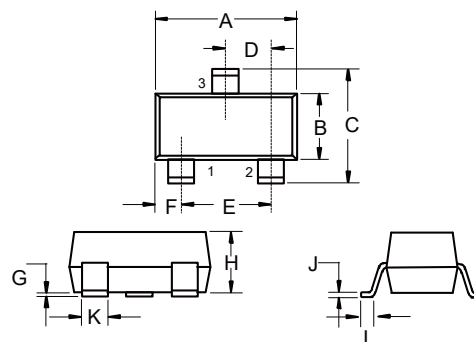
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

## Internal Structure



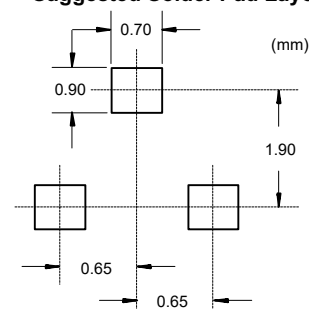
# 250mW 300Volt Dual Series Switching Diode

## SOT-323



| DIMENSIONS |        |       |      |      |      |
|------------|--------|-------|------|------|------|
| DIM        | INCHES |       | MM   |      | NOTE |
|            | 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**

|                                         |          |             |                                         |
|-----------------------------------------|----------|-------------|-----------------------------------------|
| Minimum Breakdown Voltage               | $V_{BR}$ | 240V        | $I_R=100.0\mu A$                        |
| Maximum Instantaneous Forward Voltage   | $V_F$    | 1.000V      | $I_F=100.0mA$                           |
| Maximum Reverse voltage leakage current | $I_R$    | 0.1 $\mu A$ | $V_R=240V$                              |
| Maximum Diode Capacitance               | $C_D$    | 5.0pF       | $V_R=0.0V, f=1.0MHz$                    |
| Maximum Reverse Recovery Time           | $t_{rr}$ | 50.0ns      | $I_F=30mA, I_R=30mA$<br>$R_L=100\Omega$ |

## Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

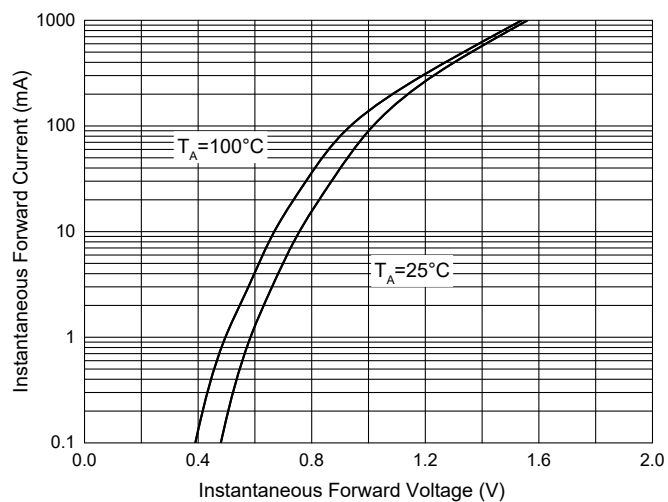


Fig. 2 - Typical Reverse Leakage Characteristics

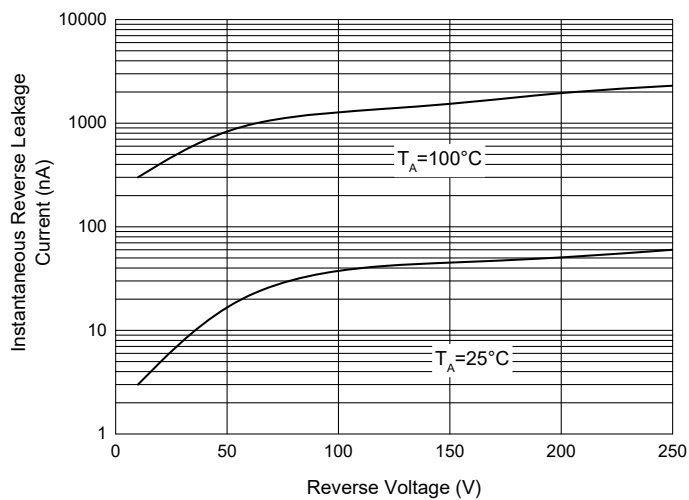
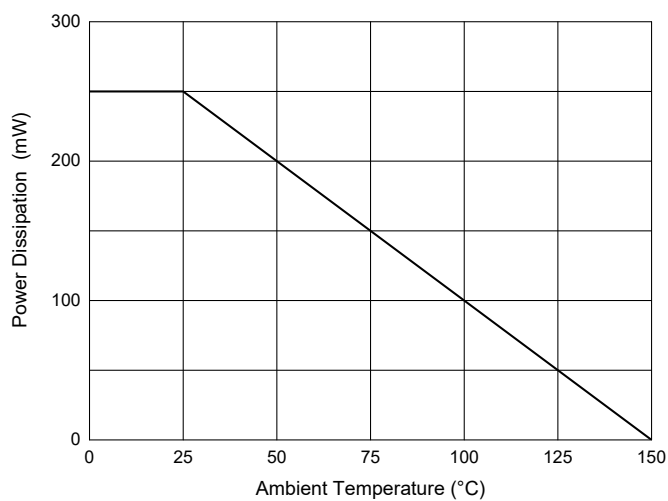


Fig. 3 - Power Derating Curve



## Ordering Information

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

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