



Micro Commercial Components

Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

# MMBD4448WT

## Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

## Mechanical Data

- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- Polarity: See Diagram
- Marking: KA3

## Maximum Ratings @ 25°C Unless Otherwise Specified

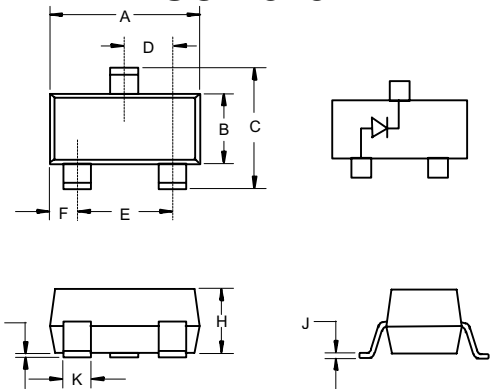
| Characteristic                      | Symbol         | Value       | Unit |
|-------------------------------------|----------------|-------------|------|
| Non-Repetitive Peak Reverse Volt.   | $V_{RM}$       | 100         | V    |
| Peak Repetitive Reverse Voltage     | $V_{RRM}$      | 75          | V    |
| Working Peak Reverse Voltage        | $V_{RWM}$      |             |      |
| DC Blocking Voltage                 | $V_R$          |             |      |
| RMS Reverse Voltage                 | $V_{R(RMS)}$   | 53          | V    |
| Forward Continuous Current(Note1)   | $I_{FM}$       | 500         | mA   |
| Average Rectified Output Current    | $I_o$          | 250         | mA   |
| Non-Repetitive Peak @ $t < 1.0s$    | $I_{FSM}$      | 2           | A    |
| Forward Surge Current @ $t = 1.0us$ |                | 4           | A    |
| Power Dissipation(Note 1)           | $P_d$          | 200         | mW   |
| Thermal Resistance(Note 1)          | $R_{thja}$     | 625         | K/W  |
| Operation/Storage Temp. Range       | $T_j, T_{STG}$ | -55 to +150 | °C   |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| Charateristic                | Symbol   | Min   | Max   | Unit | Test Cond.                    |
|------------------------------|----------|-------|-------|------|-------------------------------|
| Maximum Forward Voltage Drop | $V_{FM}$ | 0.62  | 0.72  | V    | $I_F = 5.0mA$                 |
|                              |          | ----- | 0.855 |      | $I_F = 10mA$                  |
|                              |          |       | 1     |      | $I_F = 100mA$                 |
|                              |          |       | 1.25  |      | $I_F = 150mA$                 |
| Maximum Peak Reverse Current | $I_{RM}$ | ----- | 2.5   | uA   | $V_R = 75V$                   |
|                              |          |       | 50    | uA   | $V_R = 75V T_j = 150^\circ C$ |
|                              |          |       | 30    | uA   | $V_R = 25V T_j = 150^\circ C$ |
|                              |          |       | 25    | nA   | $V_R = 20V$                   |
| Junction Capacitance         | $C_j$    | ----- | 4     | pF   | $V_R = 0V, f = 1.0MHz$        |
| Reverse Recovery Time        | $t_{rr}$ | ----- | 4     | ns   |                               |

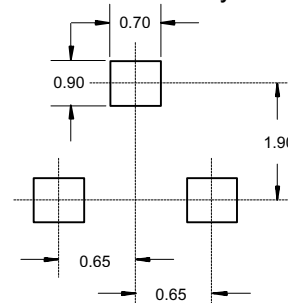
## Surface Mount Switching Diode 200mW

### SOT-323



| DIM | INCHES       |      | MM          |      | NOTE |
|-----|--------------|------|-------------|------|------|
|     | MIN          | MAX  | MIN         | MAX  |      |
| A   | .079         | .087 | 2.00        | 2.20 |      |
| B   | .045         | .053 | 1.15        | 1.35 |      |
| C   | .085         | .096 | 2.15        | 2.45 |      |
| D   | .026 Nominal |      | 0.65Nominal |      |      |
| E   | .047         | .055 | 1.20        | 1.40 |      |
| F   | .012         | .016 | .30         | .40  |      |
| G   | .000         | .004 | .000        | .100 |      |
| H   | .035         | .039 | .90         | 1.00 |      |
| J   | .003         | .006 | .08         | .15  |      |
| K   | .008         | .016 | .20         | .40  |      |

### Suggested Solder Pad Layout



Note: 1. Valid provided that terminals are kept at ambient temperature  
2.  $T_{rr}$  Test Condition:  $I_F = I_R = 10mA, I_{rr} = 0.1 * I_R, R = 100 OHM$

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Figure 1  
Typical Forward Characteristics

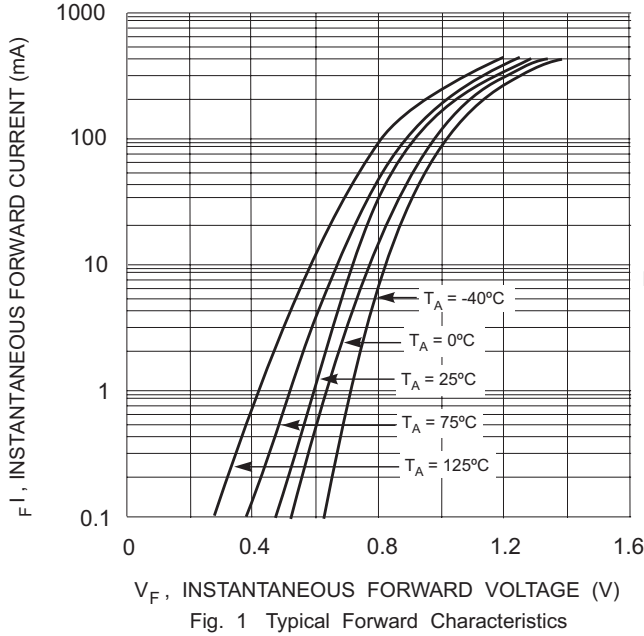


Figure 2  
Forward Derating Curve

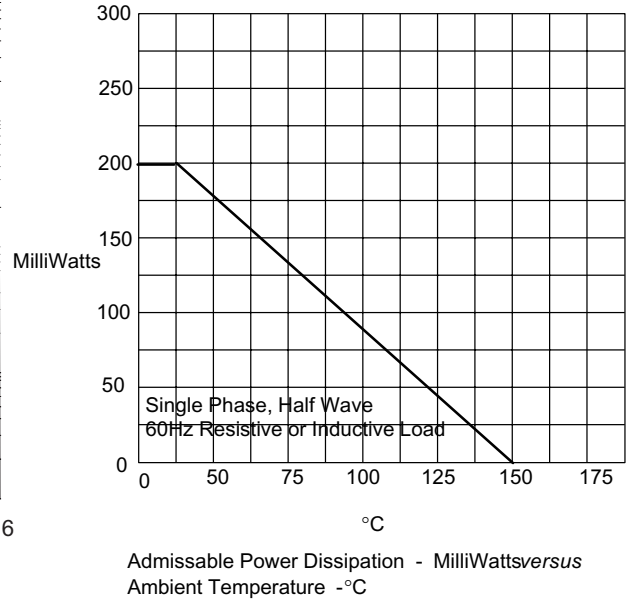
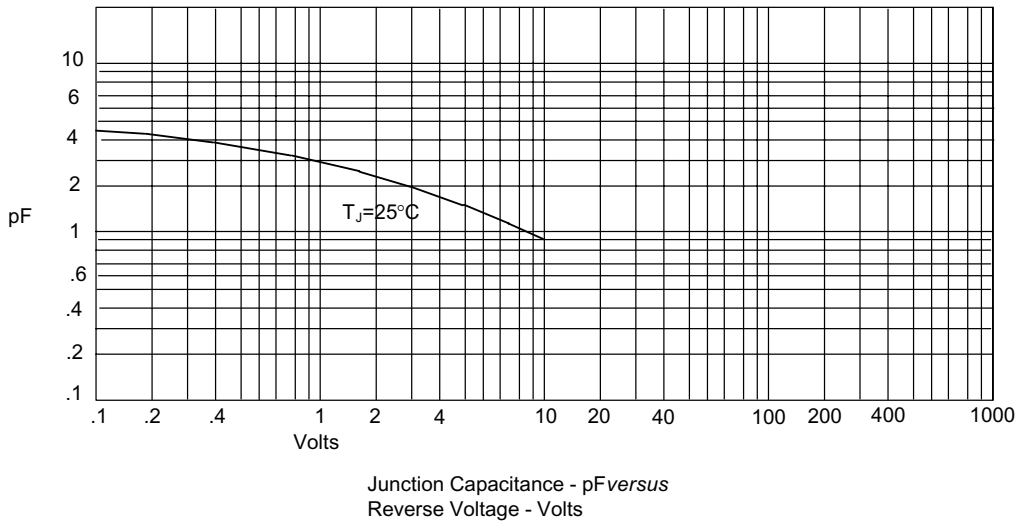


Figure 3  
Junction Capacitance



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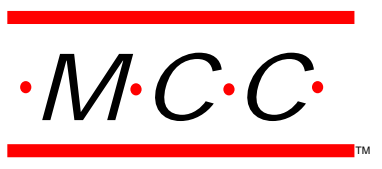
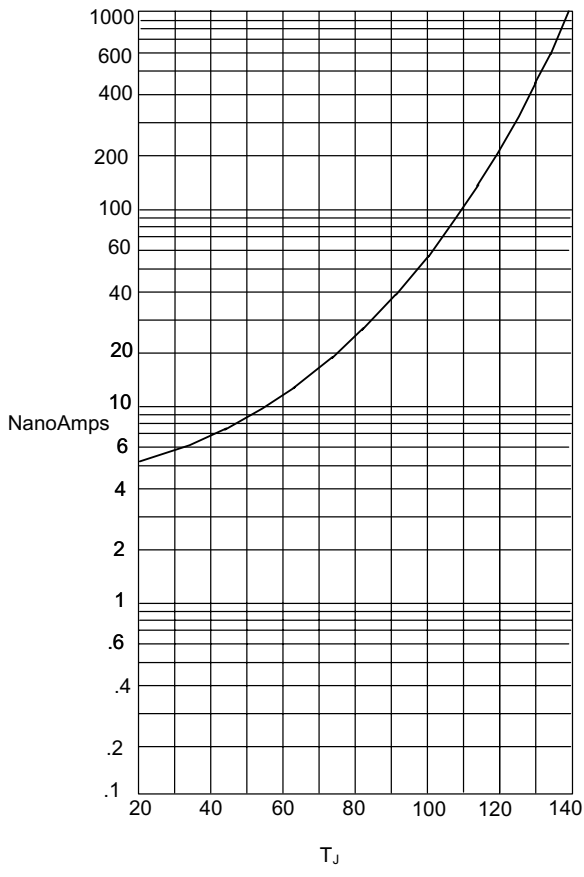


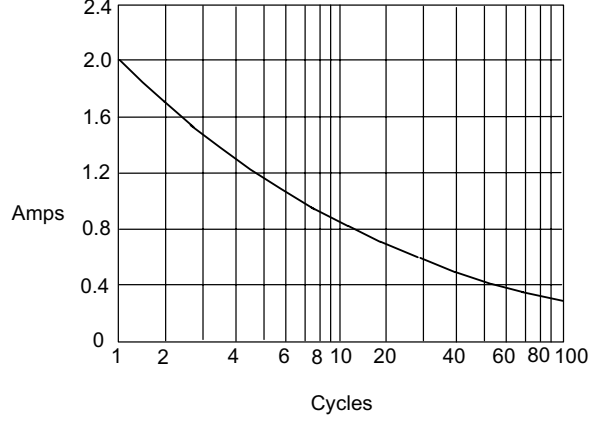
Figure 4  
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - NanoAmperes versus Junction Temperature - °C

T<sub>A</sub>=25°C

Figure 5  
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus Number Of Cycles At 60Hz - Cycles



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## Ordering Information

| Device           | Packing              |
|------------------|----------------------|
| (Part Number)-TP | Tape&Reel;3Kpcs/Reel |

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