

## Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- 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

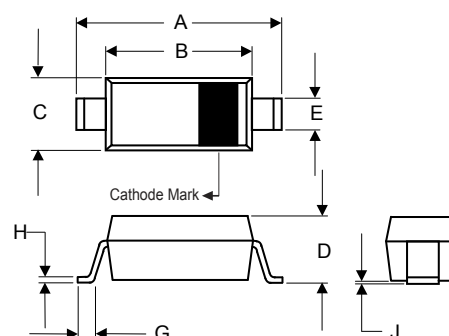
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 625°C/W Junction to Ambient

| MCC<br>Part Number | Device Marking |
|--------------------|----------------|
| 1N4148WX           | T4             |

| Parameter                          | Symbol       | Value |
|------------------------------------|--------------|-------|
| DC Reverse Voltage                 | $V_R$        | 100V  |
| Working Peak Reverse Voltage       | $V_{RWM}$    | 100V  |
| RMS Reverse Voltage                | $V_{R(RMS)}$ | 71V   |
| Forward Continuous Current         | $I_{FM}$     | 300mA |
| Average Rectified Output Current   | $I_O$        | 150mA |
| Peak Forward Surge Current (t=1μs) | $I_{FSM}$    | 2A    |
| (t=1s)                             |              | 1A    |
| Power Dissipation                  | $P_D$        | 200mW |

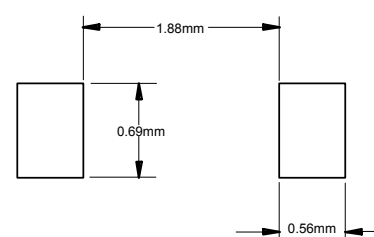
# 200mW High Speed Switching Diode

## SOD-323



| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.090  | 0.113 | 2.30 | 2.88 |      |
| B   | 0.063  | 0.071 | 1.60 | 1.80 |      |
| C   | 0.045  | 0.053 | 1.15 | 1.35 |      |
| D   | 0.031  | 0.049 | 0.80 | 1.24 |      |
| E   | 0.010  | 0.016 | 0.25 | 0.40 |      |
| G   | 0.004  | 0.018 | 0.10 | 0.45 |      |
| H   | 0.004  | 0.010 | 0.10 | 0.25 |      |
| J   | ----   | 0.006 | ---- | 0.15 |      |

### Suggested Solder Pad Layout



**Electrical Characteristics @ 25°C (Unless Otherwise Specified)**

| Parameter             | Symbol   | Conditions                                                | Min. | Typ. | Max.  | Units         |
|-----------------------|----------|-----------------------------------------------------------|------|------|-------|---------------|
| Forward Voltage       | $V_F$    | $I_F=1\text{mA}$                                          |      |      | 0.715 | V             |
|                       |          | $I_F=10\text{mA}$                                         |      |      | 0.855 | V             |
|                       |          | $I_F=50\text{mA}$                                         |      |      | 1     | V             |
|                       |          | $I_F=150\text{mA}$                                        |      |      | 1.25  | V             |
| Reverse Current       | $I_R$    | $V_R=20\text{V}, T_J=25^\circ\text{C}$                    |      |      | 25    | nA            |
|                       |          | $V_R=75\text{V}, T_J=25^\circ\text{C}$                    |      |      | 1     | $\mu\text{A}$ |
|                       |          | $V_R=75\text{V}, T_J=150^\circ\text{C}$                   |      |      | 50    | $\mu\text{A}$ |
| Junction Capacitance  | $C_J$    | $V_R = 0\text{V}, f = 1\text{MHz}$                        |      |      | 2     | pF            |
| Reverse Recovery Time | $t_{rr}$ | $I_F=I_R=10\text{mA},$<br>$I_{rr}=0.1*I_R, R_L=100\Omega$ |      |      | 4     | ns            |

\* Pulse Test: Pulse Width 300  $\mu\text{sec}$ , Duty Cycle 2%

## Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

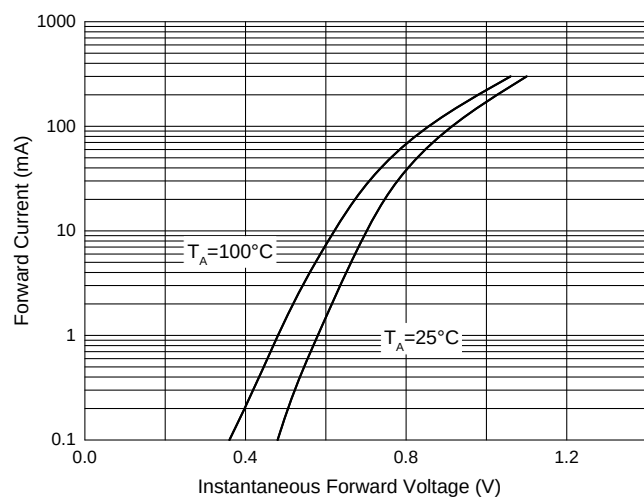


Fig. 2 - Typical Reverse Leakage Characteristics

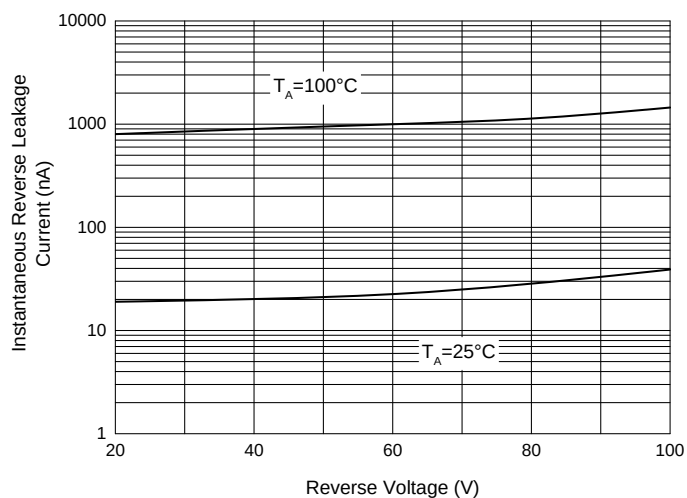
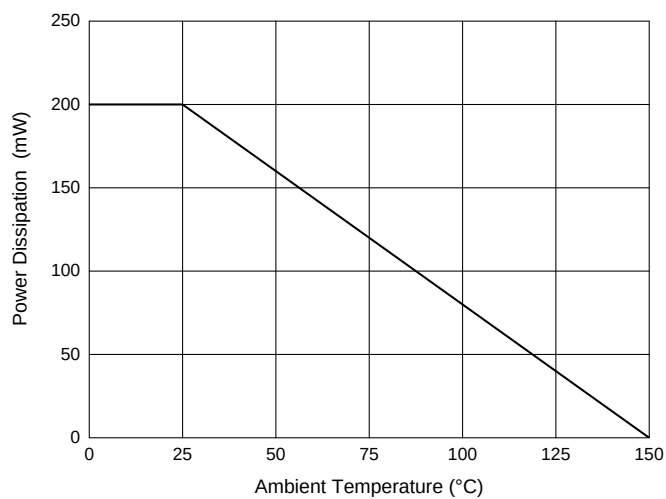


Fig. 3 - Power Derating Curve



## Ordering Information

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

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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