

## Features

- Halogen Free. "Green" Device (Note 1)
- AEC-Q101 Qualified
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- Fast Switching Speed
- 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: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Thermal Resistance: 625°C/W Junction to Ambient

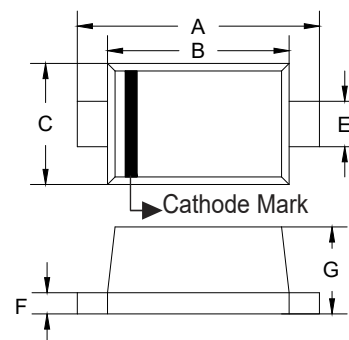
| MCC Part Number | Device Marking |
|-----------------|----------------|
| 1N4148XHE3      | T4             |

| 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 |

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

# 200mW Switching Diodes

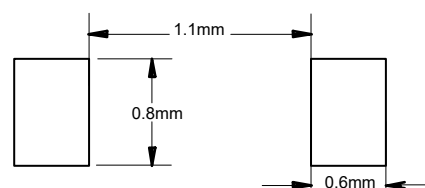
## SOD-523



### DIMENSIONS

| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.059  | 0.067 | 1.50 | 1.70 |      |
| B   | 0.043  | 0.051 | 1.10 | 1.30 |      |
| C   | 0.030  | 0.033 | 0.75 | 0.85 |      |
| E   | 0.010  | 0.014 | 0.25 | 0.35 |      |
| F   | 0.003  | 0.008 | 0.08 | 0.20 |      |
| G   | 0.020  | 0.026 | 0.50 | 0.65 |      |

### 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

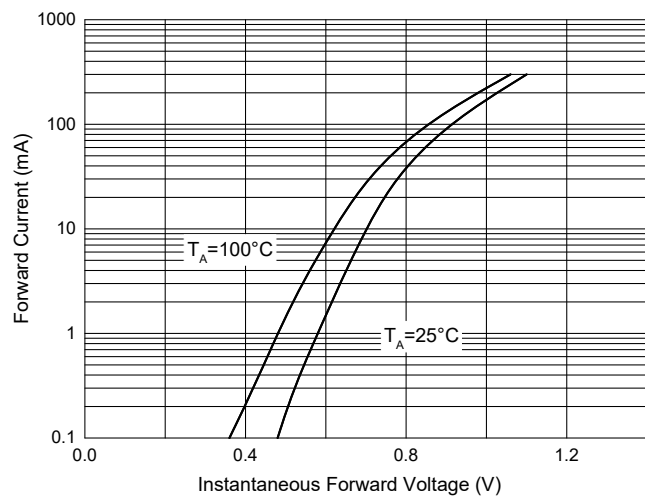


Fig. 2 - Typical Reverse Leakage Characteristics

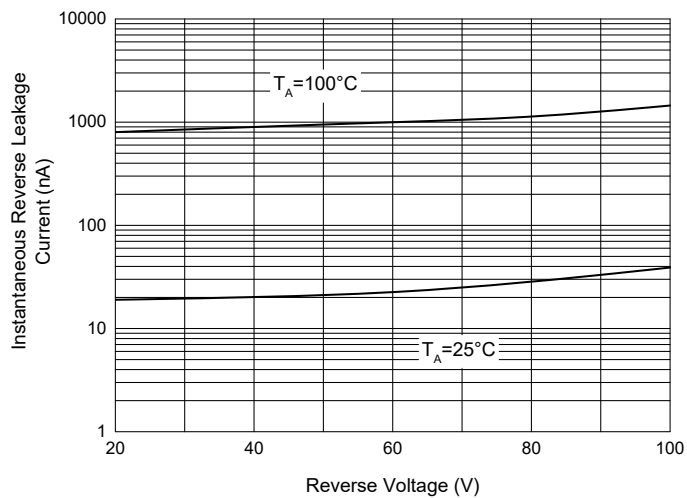
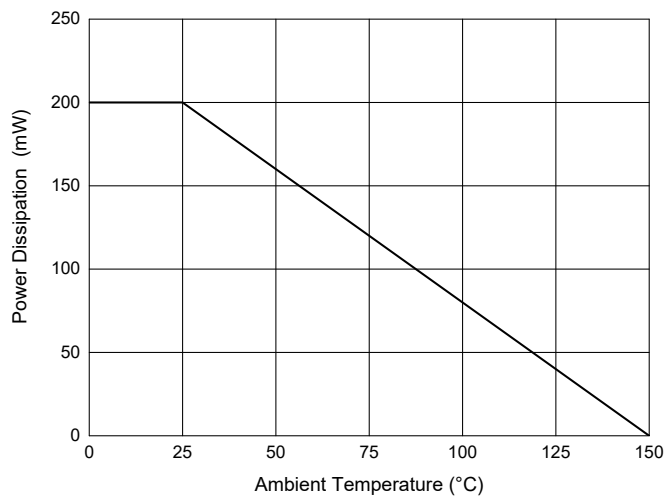


Fig. 3 - Power Derating Curve



## Ordering Information

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 8Kpcs/Reel |

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