

Features

- Fast Switching Speed
- 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

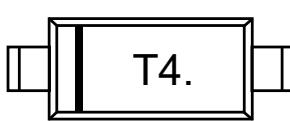
| MCC Part Number | Repetitive Peak Reverse Voltage V_{RRM} | RMS Reverse Voltage $V_R(\text{RMS})$ | DC Blocking Voltage V_R |
|-----------------|-------------------------------------------|---------------------------------------|---------------------------|
| 1N4148WX | 100V | 71V | 100V |

| Parameter | Symbol | Value |
|----------------------------------------------|-----------|----------|
| DC Reverse Voltage | V_R | 100V |
| Working Peak Reverse Voltage | V_{RWM} | 100V |
| Forward Continuous Current | I_{FM} | 300mA |
| Average Rectified Output Current | I_O | 150mA |
| Peak Forward Surge Current (t=1μs) (t=1s) | I_{FSM} | 4A 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.
 2. Part mounted on FR-4 board with recommended pad layout.

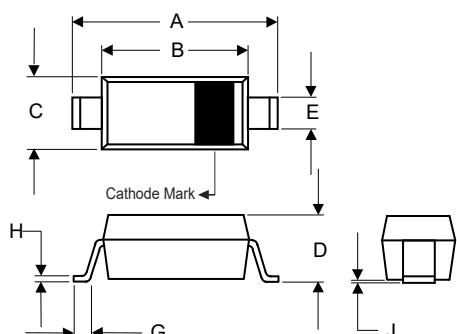
Internal Structure and Marking Code

Cathode ○ —> Anode



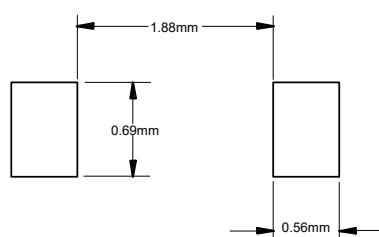
200mW High Speed Switching Diode

SOD-323



| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|-------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.090 | 0.107 | 2.30 | 2.70 | |
| B | 0.063 | 0.071 | 1.60 | 1.80 | |
| C | 0.045 | 0.053 | 1.15 | 1.35 | |
| D | 0.031 | 0.045 | 0.80 | 1.15 | |
| 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 |
|---------------------------|----------|----------------------------------------------------|------|------|-------|---------|
| Reverse Breakdown Voltage | V_{BR} | $I_R=100\mu A$ | 100 | | | V |
| Forward Voltage | V_F | $I_F=1mA$ | | | 0.715 | V |
| | | $I_F=10mA$ | | | 0.855 | V |
| | | $I_F=50mA$ | | | 1 | V |
| | | $I_F=150mA$ | | | 1.25 | V |
| Reverse Current | I_R | $V_R=20V, T_J=25^\circ C$ | | | 25 | nA |
| | | $V_R=75V, T_J=25^\circ C$ | | | 1 | μA |
| | | $V_R=75V, T_J=150^\circ C$ | | | 50 | μA |
| Junction Capacitance | C_J | $V_R = 0V, f = 1MHz$ | | | 2 | pF |
| Reverse Recovery Time | t_{rr} | $I_F=I_R=10mA,$ $I_{rr}=0.1*I_R, R_L=100\Omega$ | | | 4 | ns |

* Pulse Test: Pulse Width 300 μsec , Duty Cycle 2%

Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

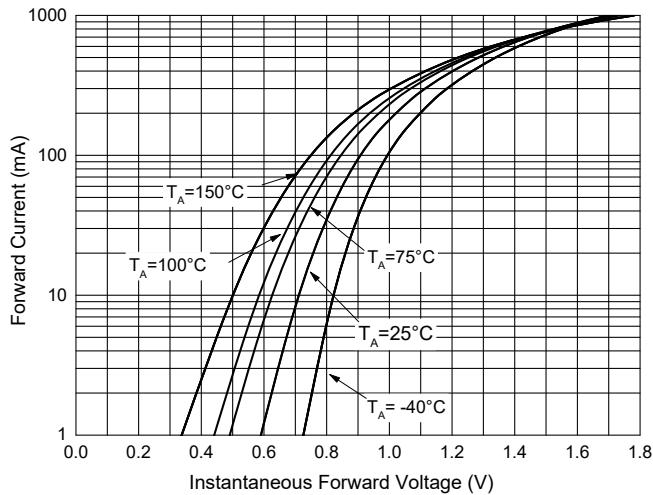


Fig. 2 - Typical Reverse Leakage Characteristics

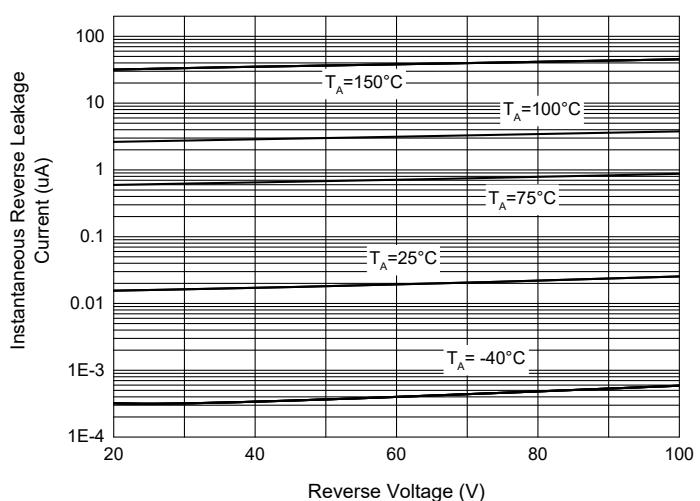


Fig. 3 - Capacitance Characteristics

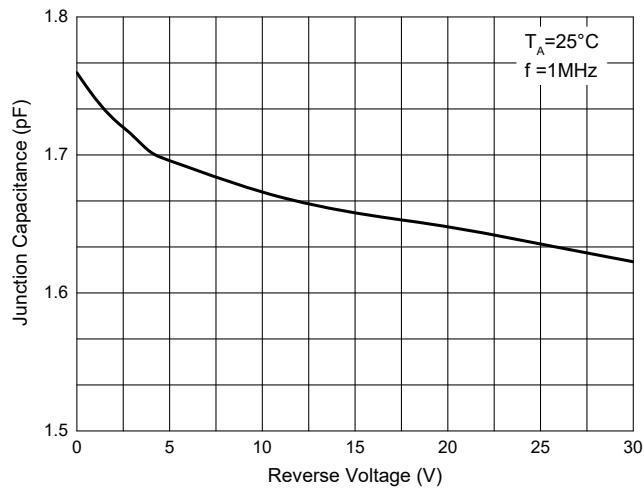
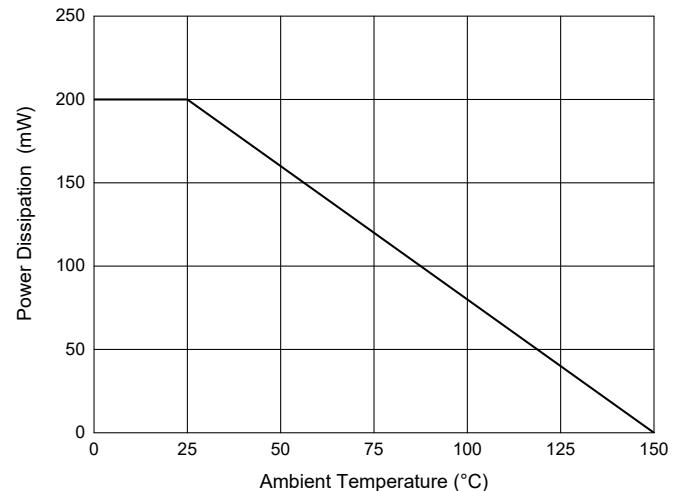


Fig. 3 - Power Derating Curve



Ordering Information

| Device | Packing |
|-----------------|------------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |
| Part Number-13P | Tape&Reel: 10Kpcs/Reel |

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