

Small Signal Product

High Speed SMD Switching Diode

FEATURES

- Fast switching device ($t_{rr} < 4.0\text{ns}$)
- Surface mount device type
- Moisture sensitivity level 1
- Matte Tin (Sn) lead finish with Nickel (Ni) underplate
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21


SOD-123

MECHANICAL DATA

- Case: Bend lead SOD-123 small outline plastic package
- Terminal: Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- High temperature soldering guaranteed : 260°C/10s
- Polarity: Indicated by cathode band
- Weight: 10 ± 0.5 mg
- Marking Code: T4

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | VALUE | UNIT |
|--|-----------------|-------------|--------------------|
| Power dissipation | P_D | 350 | mW |
| DC blocking voltage | V_R | 100 | V |
| Repetitive peak reverse voltage | V_{RRM} | 100 | V |
| Work peak reverse voltage | V_{RWM} | 100 | V |
| RMS reverse voltage | $V_{R(RMS)}$ | 70 | V |
| Repetitive peak forward current | I_{FRM} | 300 | mA |
| Mean forward current | I_O | 150 | mA |
| Non-repetitive peak forward surge current @ t=1 ms | I_{FSM} | 2.0 | A |
| @ t=10 ms | | 1.0 | |
| Thermal resistance (Junction to Ambient) (Note 1) | $R_{\theta JA}$ | 357 | $^\circ\text{C/W}$ |
| Junction and storage temperature range | T_J, T_{STG} | -65 to +150 | $^\circ\text{C}$ |

| PARAMETER | SYMBOL | MIN | MAX | UNIT |
|--------------------------------|----------|---|-----|---------------|
| Forward voltage | V_F | $I_F = 1.0\text{mA}$ | - | V |
| | | $I_F = 10\text{mA}$ | - | |
| | | $I_F = 50\text{mA}$ | - | |
| | | $I_F = 150\text{mA}$ | - | |
| Reverse leakage current | I_R | $V_R = 20\text{V}$ | - | nA |
| | | $V_R = 75\text{V}$ | - | μA |
| | | $V_R = 25\text{V}, T_J = 150^\circ\text{C}$ | - | μA |
| | | $V_R = 75\text{V}, T_J = 150^\circ\text{C}$ | - | μA |
| Junction capacitance | C_J | - | 2.0 | pF |
| Reverse recovery time (Note 2) | t_{rr} | - | 4.0 | ns |

Notes: 1. Valid provided that terminals are kept at ambient temperature

 Notes: 2. Test Conditions : $I_F = 10\text{mA}$, $I_R = 10\text{mA}$, $R_L = 100\Omega$, $I_{RR} = 1\text{mA}$

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ORDERING INFORMATION

| PART NO. | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING |
|-----------|--------------|---------------------|---------|--------------|
| 1N4148W-G | RH | G | SOD-123 | 3K / 7" Reel |

Note: Whole series with green compound

EXAMPLE

| EXAMPLE PART NO. | PART NO. | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
|------------------|-----------|--------------|---------------------|----------------|
| 1N4148W-G RHG | 1N4148W-G | RH | G | Green compound |

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

Fig.1 Typical Forward Characteristics

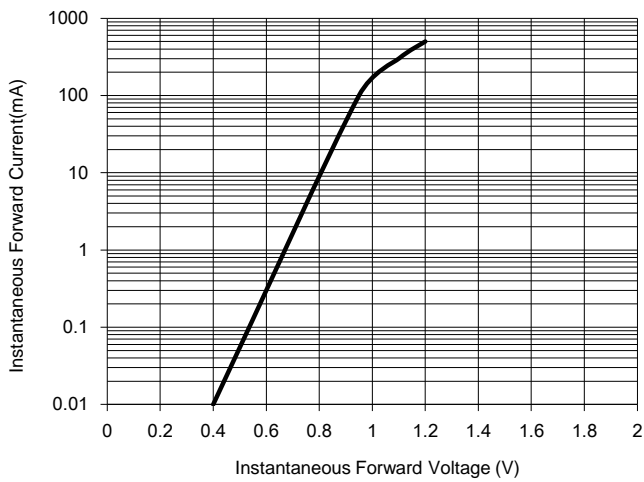
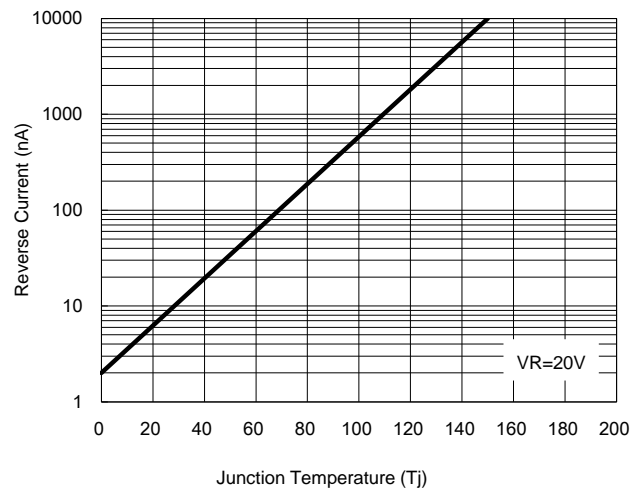


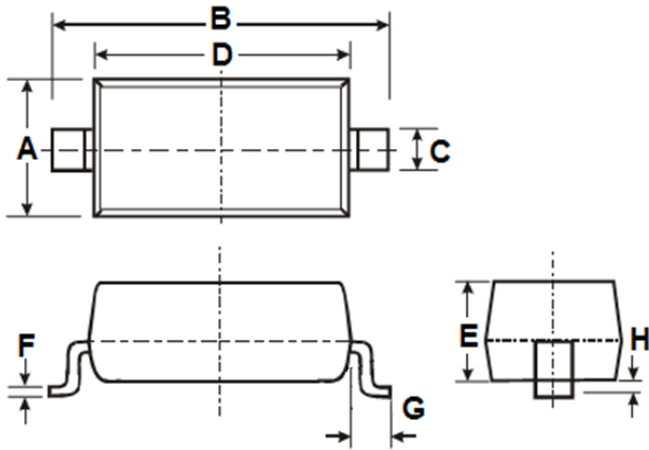
Fig. 2 Reverse Current vs Junction Temperature



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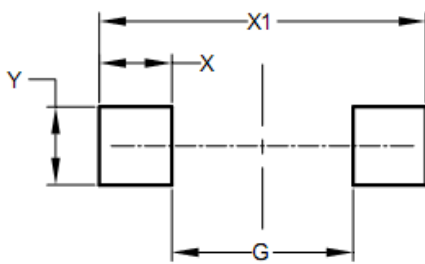
DIMENSIONS

SOD-123



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 1.40 | 1.80 | 0.055 | 0.071 |
| B | 3.55 | 3.85 | 0.140 | 0.152 |
| C | 0.45 | 0.70 | 0.018 | 0.028 |
| D | 2.55 | 2.85 | 0.100 | 0.112 |
| E | 0.95 | 1.35 | 0.037 | 0.053 |
| F | 0.05 | 0.15 | 0.002 | 0.006 |
| G | 0.50 REF | | 0.02 REF | |
| H | - | 0.10 | - | 0.004 |

SUGGESTED PAD LAYOUT



| DIM. | Unit (mm) | Unit (inch) |
|------|-----------|-------------|
| | Min | Min |
| G | 2.25 | 0.089 |
| X | 0.90 | 0.035 |
| X1 | 4.05 | 0.159 |
| Y | 0.95 | 0.037 |

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