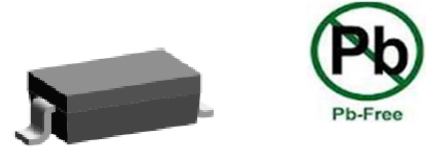


Small Signal Product
High Speed SMD Switching Diode
FEATURES

- 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
- Pb free version and RoHS compliant
- Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code


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 : $260^{\circ}\text{C}/10\text{s}$
- Polarity: Indicated by cathode band
- Weight: $10 \pm 0.5 \text{ mg}$
- Marking Code: T4



| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted) | | | |
|---|-----------------|--------------|-----------------------------|
| PARAMETER | SYMBOL | VALUE | UNITS |
| 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 @ $t=1.0\mu\text{s}$ @ $t=1.0\text{s}$ | I_{FSM} | 2.0 1.0 | A |
| Thermal resistance (Junction to Ambient) (Note 1) | $R_{\theta JA}$ | 357 | $^{\circ}\text{C}/\text{W}$ |
| Junction and storage temperature range | T_J, T_{STG} | -65 to + 150 | $^{\circ}\text{C}$ |

| PARAMETER | SYMBOL | MIN | MAX | UNITS | |
|-------------------------|----------|---|-----|-------|---------------|
| Forward voltage | V_F | $I_F=1.0\text{mA}$ | - | 0.715 | V |
| | | $I_F=10\text{mA}$ | - | 0.855 | |
| | | $I_F=50\text{mA}$ | - | 1.0 | |
| | | $I_F=150\text{mA}$ | - | 1.25 | |
| Reverse leakage current | I_R | $V_R=20\text{V}$ | - | 25 | nA |
| | | $V_R=75\text{V}$ | - | 2.5 | μA |
| | | $V_R=25\text{V}, T_j=150^{\circ}\text{C}$ | - | 30 | μA |
| | | $V_R=75\text{V}, T_j=150^{\circ}\text{C}$ | - | 50 | μA |
| Junction capacitance | C_J | - | 2.0 | pF | |
| Reverse recovery time | T_{rr} | - | 4.0 | ns | |

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

 Notes : 2. Reverse Recovery 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 | GREEN COMPOUND CODE | PACKAGE | PACKING | MANUFACTURE CODE |
| 1N4148W-G | RB | Suffix "G" | SOD-123 | 3000 / 7" Reel | (Note) |

Note: Manufacture special control, if empty means no special control requirement.

| EXAMPLE | | | | | |
|---------------|-----------|--------------|---------------------|------------------|----------------|
| PREFERRED P/N | PART NO. | PACKING CODE | GREEN COMPOUND CODE | MANUFACTURE CODE | DESCRIPTION |
| 1N4148W-G RB | 1N4148W-G | RB | | | |
| 1N4148W-G RBG | 1N4148W-G | RB | G | | Green compound |
| 1N4148W-G RB | 1N4148W-G | RB | | X0 | |
| 1N4148W-G RBG | 1N4148W-G | RB | G | X0 | Green compound |

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

Fig.1 Typical Forward Characteristics

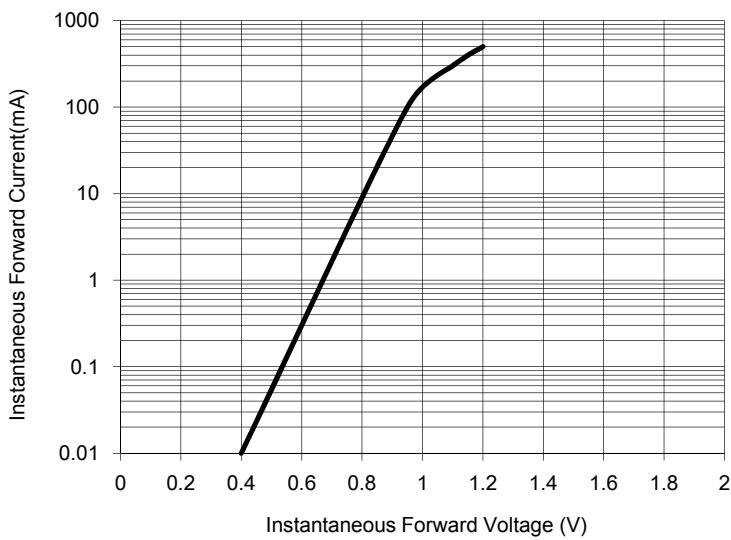
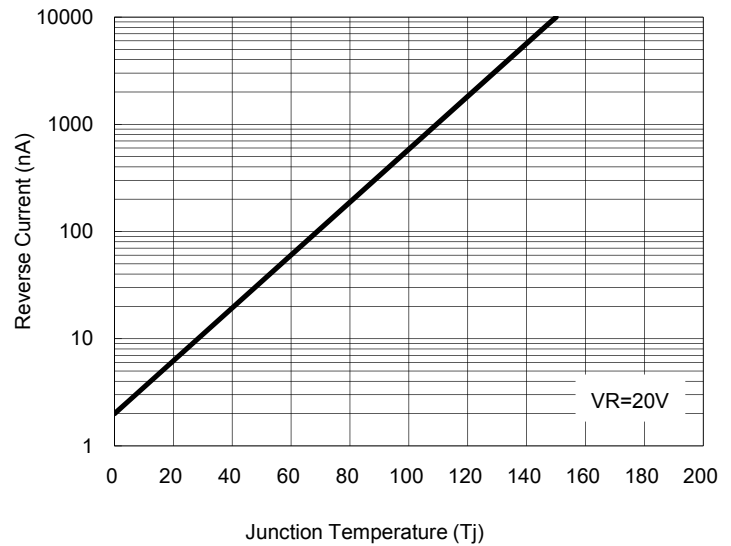
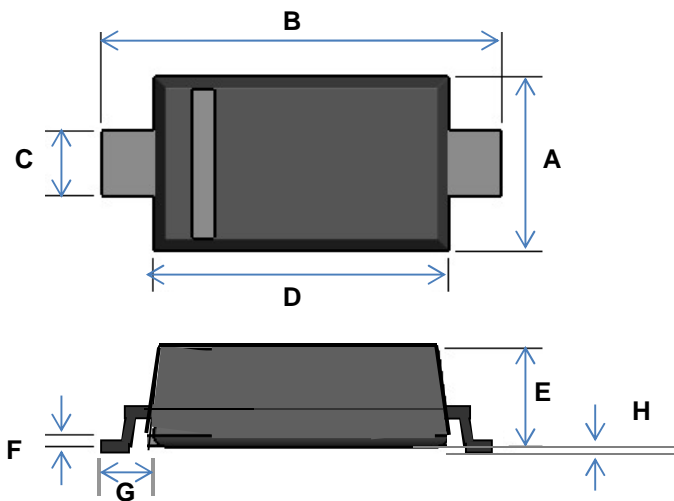


Fig. 2 Reverse Current vs Junction Temperature



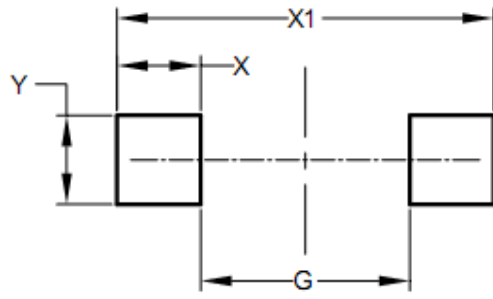
DIMENSIONS



| 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 |

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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 |