

Small Signal Product

410mW High Voltage SMD Switching Diode

FEATURES

- These diodes are also available in DO-35, LL34 Package
- Surface Mount Device Type
- Moisture sensitivity level 1
- Matte Tin (Sn) lead finish with Nickel (Ni) underplate
- Pb free version and RoHS compliant
- Packing code with suffix "G" means green compound (halogen-free)



SOD-123F



MECHANICAL DATA

- Case: Flat lead SOD-123F 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: 4.85 ± 0.5mg



| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | |
|--|-----------------------------------|-------------|------|
| PARAMETER | SYMBOL | VALUE | UNIT |
| Power Dissipation | P _D | 410 | mW |
| Repetitive Peak Reverse Voltage | V _{RRM} | 250 | V |
| Repetitive Peak Forward Current | I _{FRM} | 625 | mA |
| Mean Forward Current | I _O | 200 | mA |
| Non-Repetitive Peak Forward Surge Current Pulse Width = 1 μs Pulse Width = 1 s | I _{FSM} | 4 | A |
| | | 1 | |
| Thermal Resistance (Junction to Ambient) | R _{θJA} | 375 | °C/W |
| Junction and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | °C |

| PARAMETER | SYMBOL | MIN | MAX | UNIT |
|------------------------------------|-------------------|------------------------------|------|------|
| Reverse Breakdown Voltage (Note 1) | V _(BR) | BAV19W 120 | - | V |
| | | BAV20W 200 | - | |
| | | BAV21W 250 | - | |
| Forward Voltage | V _F | I _F = 100 mA - | 1 | V |
| | | I _F = 200 mA - | 1.25 | |
| Reverse Leakage Current (Note 2) | I _R | BAV19W - | 100 | nA |
| | | BAV20W | | |
| | | BAV21W | | |
| Junction Capacitance | C _J | - | 5 | pF |
| Reverse Recovery Time (Note 3) | t _{rr} | - | 50 | ns |

Note 1 : Test condition : I_R= 100μA

Note 2 : Test condition : BAV19W @ V_R=100V, BAV20W @ V_R=150V, BAV21W @ V_R=200V

Note 3 : Test condition : I_F= I_R= 30mA , R_L=100Ω , I_{rr}=3mA

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RATINGS AND CHARACTERISTICS CURVES

($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Fig. 1 Admissible Power Dissipation Curve

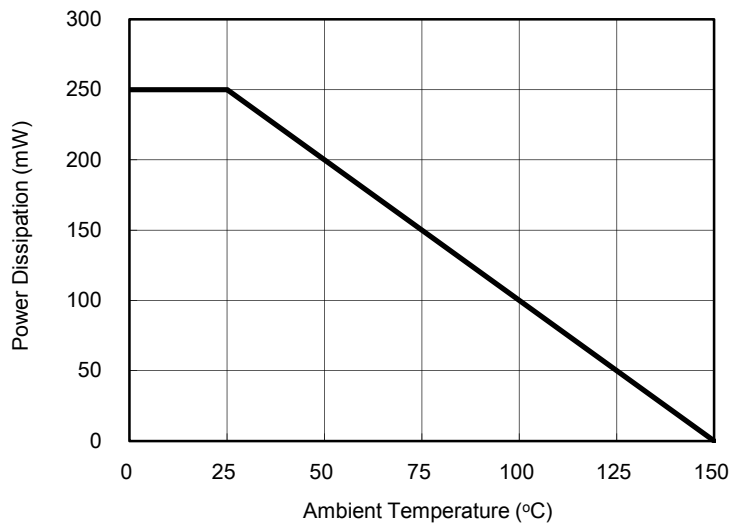


Fig. 2 Typical Forward Characteristics

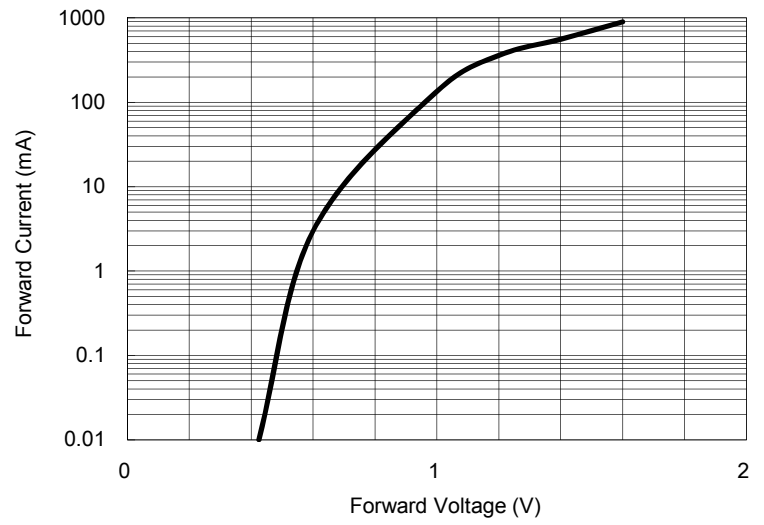
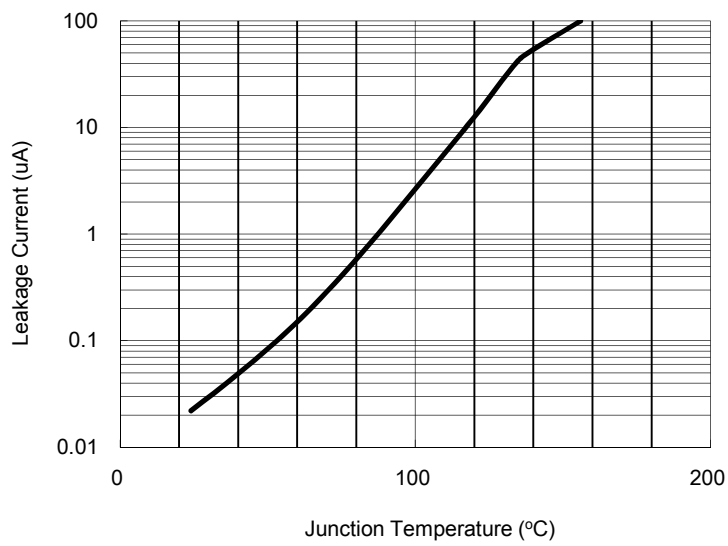


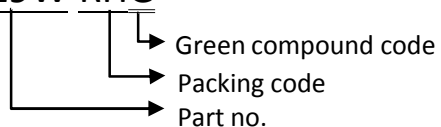
Fig. 3 Leakage Current VS. Junction Temperature



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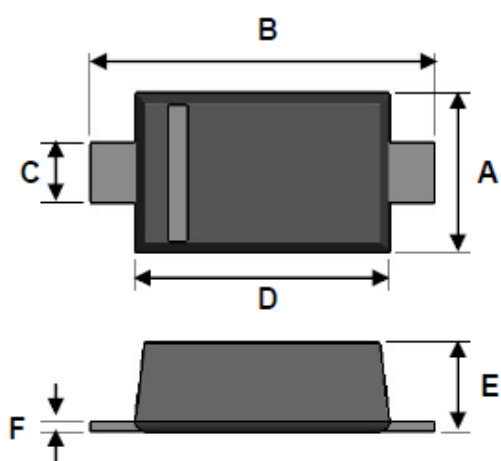
ORDER INFORMATION (EXAMPLE)

BAV19W RHG



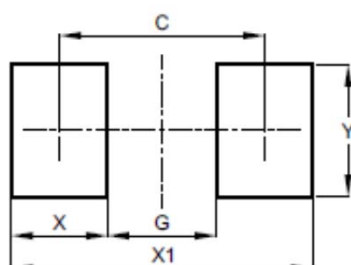
PACKAGE OUTLINE DIMENSIONS

SOD-123F



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 1.50 | 1.70 | 0.059 | 0.067 |
| B | 3.30 | 3.90 | 0.130 | 0.154 |
| C | 0.50 | 0.70 | 0.020 | 0.028 |
| D | 2.50 | 2.70 | 0.098 | 0.106 |
| E | 0.80 | 1.15 | 0.031 | 0.045 |
| F | 0.05 | 0.20 | 0.002 | 0.008 |

SUGGEST PAD LAYOUT



| DIM. | Unit (mm) | Unit (inch) |
|------|-----------|-------------|
| | Typ. | Typ. |
| C | 2.86 | 0.113 |
| G | 1.52 | 0.060 |
| X | 1.34 | 0.053 |
| X1 | 4.20 | 0.165 |
| Y | 1.80 | 0.071 |

MARKING CODE

| Part no. | Marking |
|----------|---------|
| BAV19W | H1 |
| BAV20W | H2 |
| BAV21W | H3 |

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