

Small Signal Product

High Voltage Fast Switching Diode

FEATURES

- Fast switching device($t_{rr}<50\text{ns}$)
- Surface mount device type
- Moisture sensitivity level 1
- Low reverse leakage
- Pb free and RoHS compliant
- Packing code with suffix "G" means green compound (halogen-free)


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: 10.5 ± 0.5 mg



| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted) | | | | | |
|--|-----------------|-------------|----------|----------|--------------------|
| PARAMETER | SYMBOL | VALUE | | | UNIT |
| | | BAV19W-G | BAV20W-G | BAV21W-G | |
| Reverse voltage | V_R | 100 | 150 | 200 | V |
| Peak reverse voltage | V_{RM} | 120 | 200 | 250 | V |
| Power dissipation | P_D | 500 | | | mW |
| Average rectified output current | I_O | 200 | | | mA |
| Repetitive peak forward current | I_{FM} | 400 | | | mA |
| Non-repetitive peak forward surge current @ $t_p=1.0\text{ms}$; $T_A=25^\circ\text{C}$ | I_{FSM} | 2.5 | | | A |
| Thermal Resistance (Junction to Ambient) | $R_{\theta JA}$ | 250 | | | $^\circ\text{C/W}$ |
| Junction and Storage temperature range | T_J, T_{STG} | -65 to +150 | | | $^\circ\text{C}$ |

| PARAMETER | SYMBOL | MIN | MAX | UNIT |
|------------------------------|----------|-----|------|---------------|
| Reverse voltage | V_{BR} | 120 | - | V |
| | | 200 | - | |
| | | 250 | - | |
| Reverse leakage current | I_R | - | 0.1 | μA |
| | | - | | |
| | | - | | |
| Forward voltage | V_F | - | 1.00 | V |
| | | - | 1.25 | |
| Junction capacitance | C_J | - | 5.0 | pF |
| Reverse Recovery Time (Note) | t_{rr} | - | 50 | ns |

 Note: Test condition: $I_F=I_R=30\text{mA}$, $R_L=100\Omega$, $I_{RR}=3\text{mA}$

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RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

Fig.1 Typical Forward Characteristics

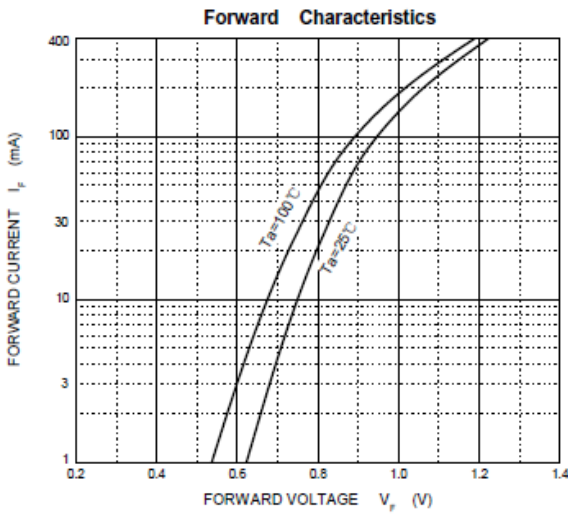


Fig. 2 Reverse Current VS. Reverse Voltage

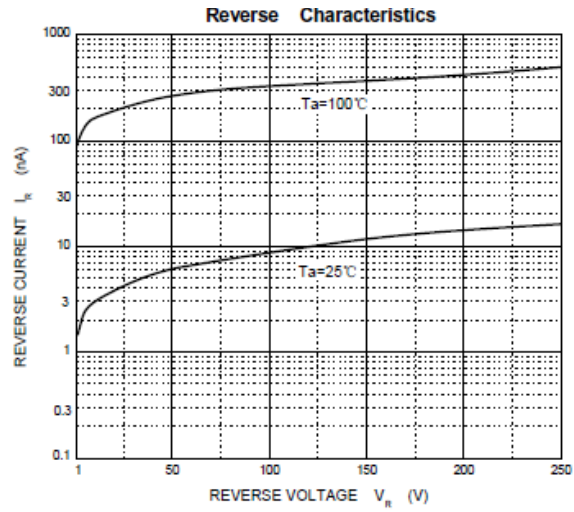


Fig. 3 Admissible Power Dissipation Curve

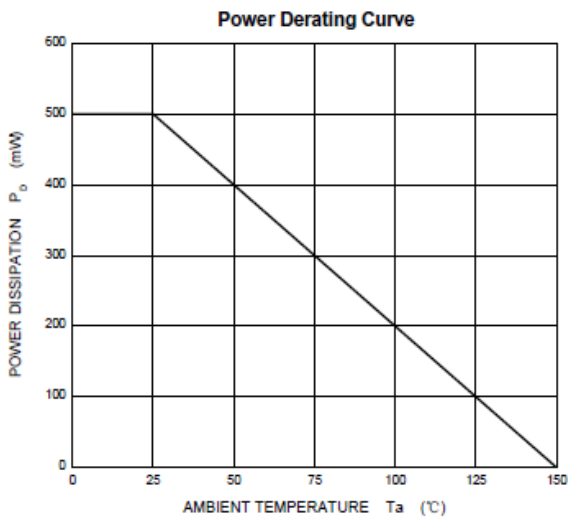
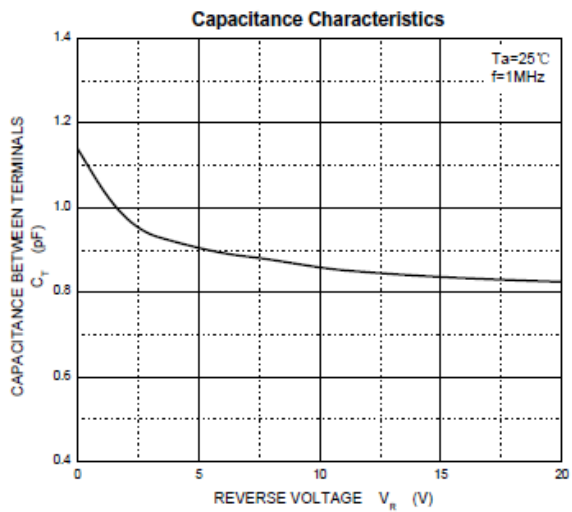


Fig. 4 Typical Capacitance Characteristics



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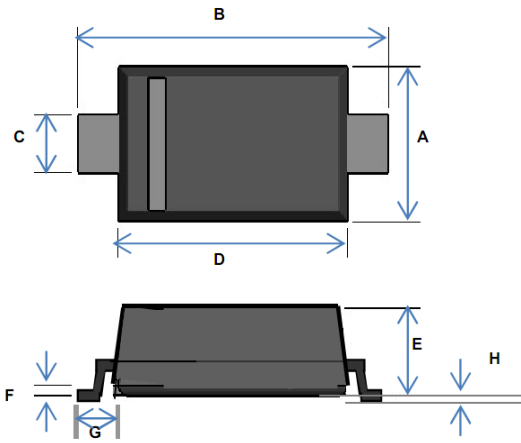
| ORDERING INFORMATION | | | | | | |
|-----------------------------|-------------------------|---------------------|----------------------------|----------------|----------------|----------------|
| PART NO. | MANUFACTURE CODE | PACKING CODE | GREEN COMPOUND CODE | PACKAGE | PACKING | MARKING |
| BAV19W-G | (Note 2) | RH | G | SOD-123 | 3K / 7" Reel | A8 |
| BAV20W-G | | | | | | T2 |
| BAV21W-G | | | | | | T3 |

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

| EXAMPLE | | | | | |
|----------------------|-----------------|-------------------------|---------------------|-----------------------|--------------------|
| PREFERRED P/N | PART NO. | MANUFACTURE CODE | PACKING CODE | GREEN COMPOUND | DESCRIPTION |
| BAV19W-G RH | BAV19W-G | | RH | | |
| BAV19W-G RHG | | | | G | Green compound |
| BAV19W-G-N0 RH | | N0 | | | |
| BAV19W-G-N0 RHG | | N0 | | G | Green compound |

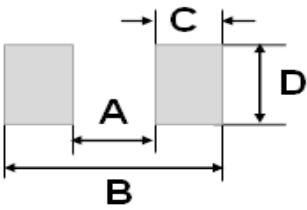
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DIMENSIONS



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 1.4 | 1.8 | 0.055 | 0.071 |
| B | 3.55 | 3.85 | 0.140 | 0.152 |
| C | 0.45 | 0.7 | 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 | 0.5 REF | | 0.02 REF | |
| H | - | 0.1 | - | 0.004 |

SUGGESTED PAD LAYOUT



| DIM. | Unit (mm) | Unit (inch) |
|------|-----------|-------------|
| | Typ. | Typ. |
| A | 2.36 | 0.093 |
| B | 4.19 | 0.165 |
| C | 0.91 | 0.036 |
| D | 1.22 | 0.048 |

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