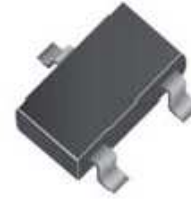


Small Signal Product

225mW SMD Switching Diode
FEATURES

- Fast switching speed
- Surface mount device type
- Moisture sensitivity level 1
- Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- Pb free and RoHS compliant
- Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code


MECHANICAL DATA

- Case: SOT-23 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
- Weight: 0.008grams (approximately)

SOT-23

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted) | | | |
|--|-----------------|-------------------------------|--------------------|
| PARAMETER | SYMBOL | VALUE | UNIT |
| Power dissipation | P_D | 225 | mW |
| Peak repetitive reverse voltage | V_{RRM} | 70 | V |
| Repetitive peak forward current | I_{FRM} | 450 | mA |
| Mean forward current | I_O | 200 | mA |
| Non-repetitive peak forward surge current | I_{FSM} | Pulse Width=1 sec | 0.5 |
| | | Pulse Width=1 μsec | 2 |
| Thermal resistance form junction to ambient | $R_{\theta JA}$ | 556 | $^\circ\text{C/W}$ |
| Junction and storage temperature range | T_J, T_{STG} | - 55 to + 150 | $^\circ\text{C}$ |

| PARAMETER | SYMBOL | MIN | MAX | UNIT |
|---------------------------|---------------|--|--------------|---------------|
| Reverse breakdown voltage | $V_{(BR)}$ | 70 | - | V |
| Forward voltage | V_F | $I_F = 50 \text{ mA}$ | 1.00 | V |
| | | $I_F = 150 \text{ mA}$ | 1.25 | |
| Reverse leakage current | I_R | - | 2.50 | μA |
| Junction capacitance | C_J | $V_R = 0 \text{ V}, f = 1 \text{ MHz}$ | BAW56, BAV70 | 2 |
| | | | BAV99 | 1.5 |
| Reverse recovery time | t_{rr} | - | 6 | ns |

Small Signal Product

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

Fig. 1 Typical Forward Characteristics

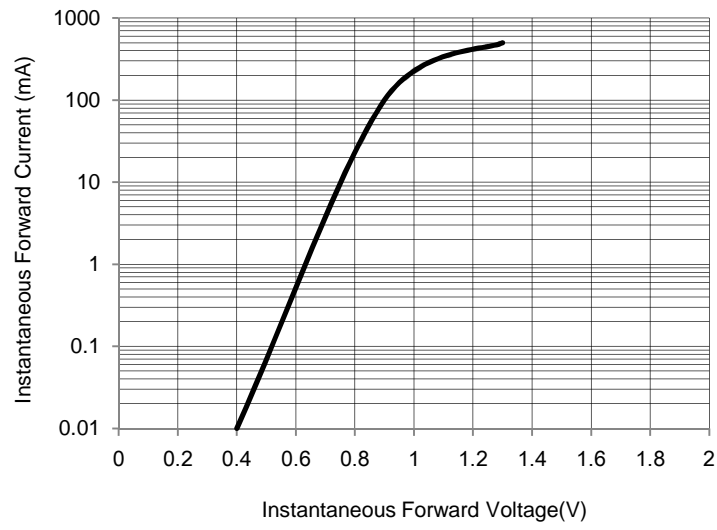


Fig. 2 Leakage Current VS. Junction Temperature

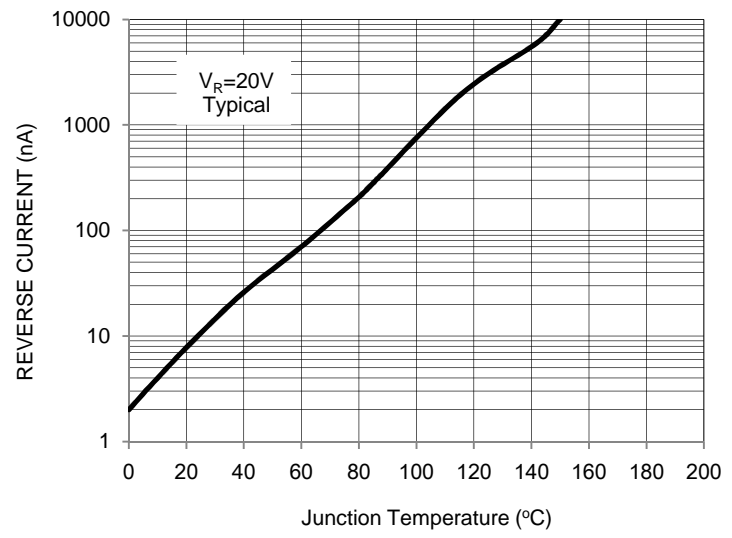
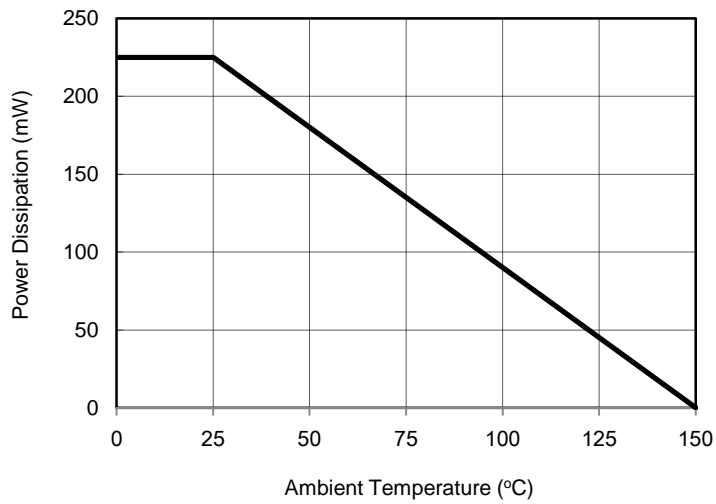


Fig. 3 Power Dissipation Derating Curve



Small Signal Product

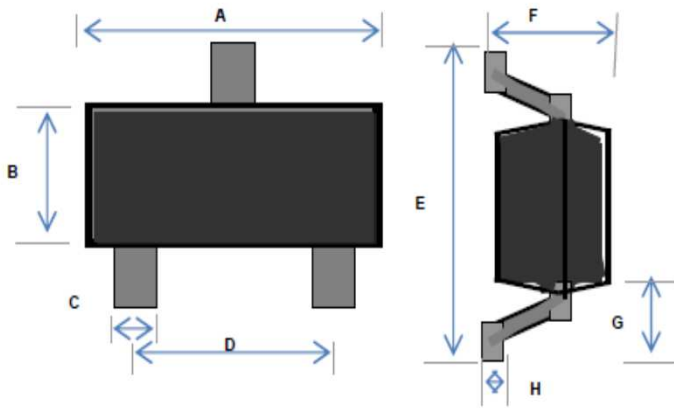
| ORDERING INFORMATION | | | | | | |
|-----------------------------|-------------------------|---------------------|----------------------------|----------------|----------------|----------------|
| PART NO. | MANUFACTURE CODE | PACKING CODE | GREEN COMPOUND CODE | PACKAGE | PACKING | MARKING |
| BAW56 | (Note) | RF | | SOT-23 | 3K / 7" Reel | A1 |
| BAV70 | | RF | | SOT-23 | 3K / 7" Reel | A4 |
| BAV99 | | RF | | SOT-23 | 3K / 7" Reel | A7 |
| BAW56 | | RF | G | SOT-23 | 3K / 7" Reel | A1 |
| BAV70 | | RF | G | SOT-23 | 3K / 7" Reel | A4 |
| BAV99 | | RF | G | SOT-23 | 3K / 7" Reel | A7 |

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

| EXAMPLE | | | | | |
|----------------------|-----------------|-------------------------|---------------------|----------------------------|--------------------|
| PREFERRED P/N | PART NO. | MANUFACTURE CODE | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION |
| BAV99 RF | BAV99 | | RF | | |
| BAV99-B0 RF | BAV99 | B0 | RF | | |
| BAV99-D0 RF | BAV99 | D0 | RF | | |
| BAV99 RFG | BAV99 | | RF | G | Green compound |
| BAV99-B0 RFG | BAV99 | B0 | RF | G | Green compound |
| BAV99-D0 RFG | BAV99 | D0 | RF | G | Green compound |

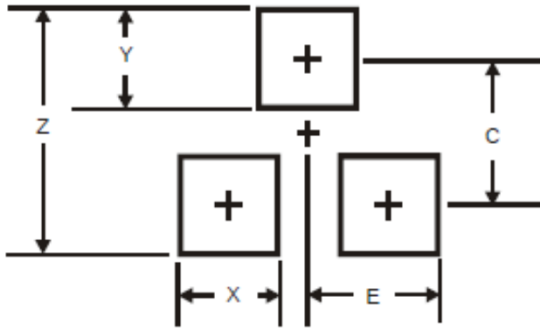
Small Signal Product

PACKAGE OUTLINE DIMENSIONS



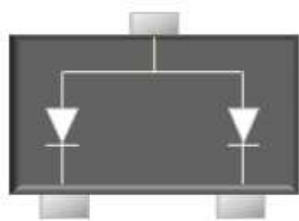
| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 2.70 | 3.10 | 0.106 | 0.122 |
| B | 1.10 | 1.50 | 0.043 | 0.059 |
| C | 0.30 | 0.51 | 0.012 | 0.020 |
| D | 1.78 | 2.04 | 0.070 | 0.080 |
| E | 2.10 | 2.64 | 0.083 | 0.104 |
| F | 0.89 | 1.30 | 0.035 | 0.051 |
| G | 0.55 REF | | 0.022 REF | |
| H | 0.1 REF | | 0.004 REF | |

SUGGEST PAD LAYOUT

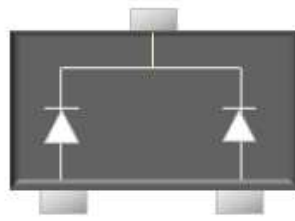


| DIM. | Unit (mm) | Unit (inch) |
|------|-----------|-------------|
| | Typ. | Typ. |
| Z | 2.9 | 0.114 |
| X | 0.8 | 0.031 |
| Y | 0.9 | 0.035 |
| C | 2.0 | 0.079 |
| E | 1.35 | 0.053 |

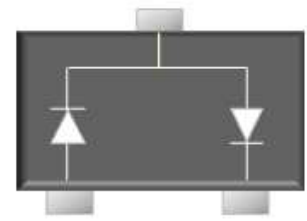
Pin Configuration



BAW56



BAV70



BAV99

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[1A4](#) [1A5](#) [1A6](#) [1A7](#) [1A7](#) [1A7](#) [1A7](#) [1A7A](#) [1G7](#) [1N3064TR](#) [1N3070](#) [1N3070TR](#) [1N3295A](#) [1N3295AR](#) [1N3296A](#) [1N3493R-SGS](#) [1N3595](#)
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