



BAS116-AU/BAW156-AU/BAV170-AU/BAV199-AU

SURFACE MOUNT, LOW LEAKAGE SWITCHING DIODES

VOLTAGE 100 Volts **POWER** 250mWatts

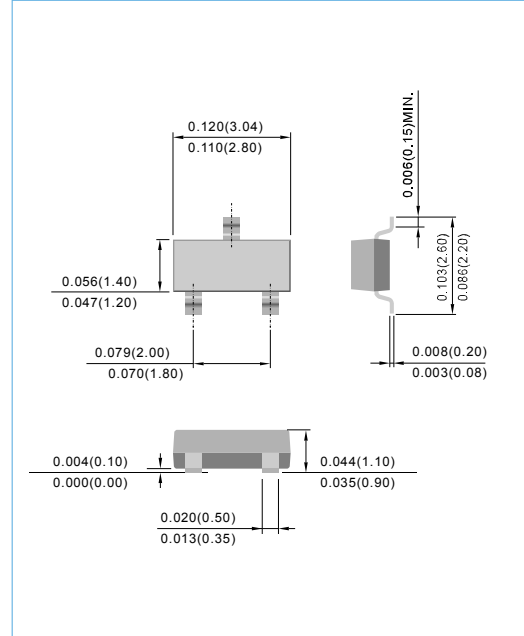
SOT-23 Unit : inch(mm)

FEATURES

- Surface mount package ideally suited for automatic insertion.
- Very low leakage current. 2pA typical at VR=75V.
- Low capacitance. 2pF max at VR=0V, f=1MHz
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in comply with EU RoHS 2002/95/EC directives.
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: SOT-23 plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx weight: 0.0084 grams
- Marking: BAS116-AU: PA,BAW156-AU:P4,BAV170-AU:P3,BAV199-AU:PB



ABSOLUTE RATINGS (each diode)

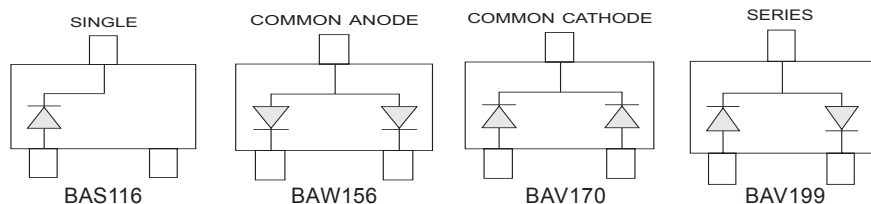
| PARAMETER | Symbol | Value | Units |
|--|-----------|-------|-------|
| Reverse Voltage | V_R | 75 | V |
| Peak Reverse Voltage | V_{RM} | 100 | V |
| Continuous Forward Current | I_F | 0.2 | A |
| Non-repetitive Peak Forward Surge Current at t=1.0us | I_{FSM} | 4.0 | A |

THERMAL CHARACTERISTICS

| PARAMETER | Symbol | Value | Units |
|--|-----------------|------------|-------|
| Power Dissipation (Note 1) | P_{TOT} | 250 | mW |
| Thermal Resistance, Junction to Ambient (Note 1) | $R_{\theta JA}$ | 500 | °C/W |
| Junction Temperature | T_J | -55 to 150 | °C |
| Storage Temperature | T_{STG} | -55 to 150 | °C |

NOTE:

1. FR-4 Board = 70 x 60 x 1mm.





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ELECTRICAL CHARACTERISTICS (each diode) (TA=25°C, unless otherwise noted)

| PARAMETER | Symbol | Test Condition | MIN. | TYP. | MAX. | Units |
|---------------------------|------------|--|------|--------------|---------------------------|-------|
| Reverse Breakdown Voltage | $V_{(BR)}$ | $I_R=100 \mu A$ | 75 | - | - | V |
| Reverse Current | I_R | $V_R=75 V$ $V_R=75 V, T_J=150 ^\circ C$ | - | 0.002 8.0 | 5 80 | nA |
| Forward Voltage | V_F | $I_F=1 mA$ $I_F=10 mA$ $I_F=50 mA$ $I_F=150 mA$ | - | - | 0.9 1.0 1.1 1.25 | V |
| Total Capacitance | C_j | $V_R=0 V, f=1 MHz$ | - | - | 2.0 | pF |
| Reverse Recovery Time | t_{rr} | $I_F=I_R=10 mA, R_L=100 \Omega$ | - | - | 3.0 | us |

CHARACTERISTIC CURVES (each diode)

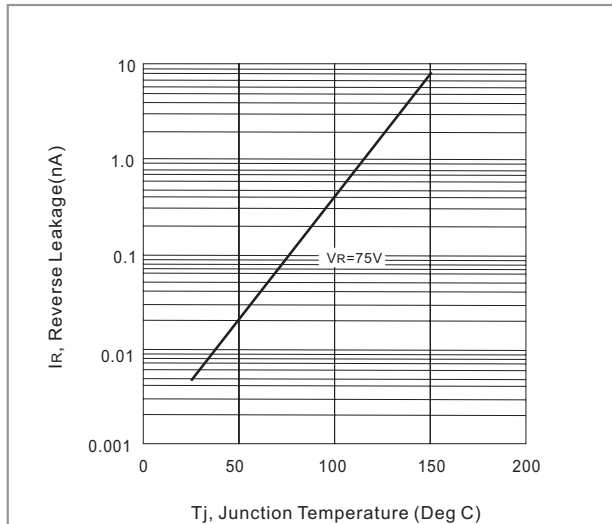


Fig. 1-Reverse Leakage vs. Junction Temperature

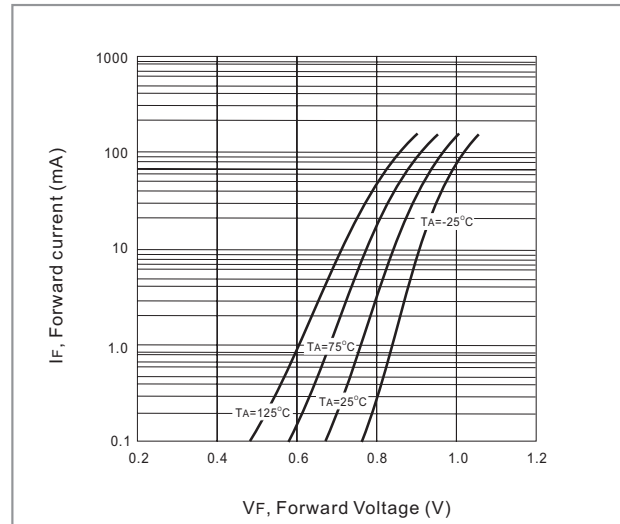


Fig. 2-Forward Current vs. Forward Voltage

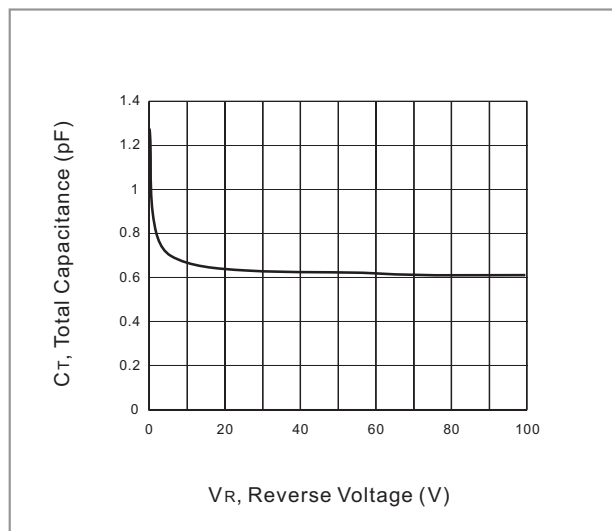
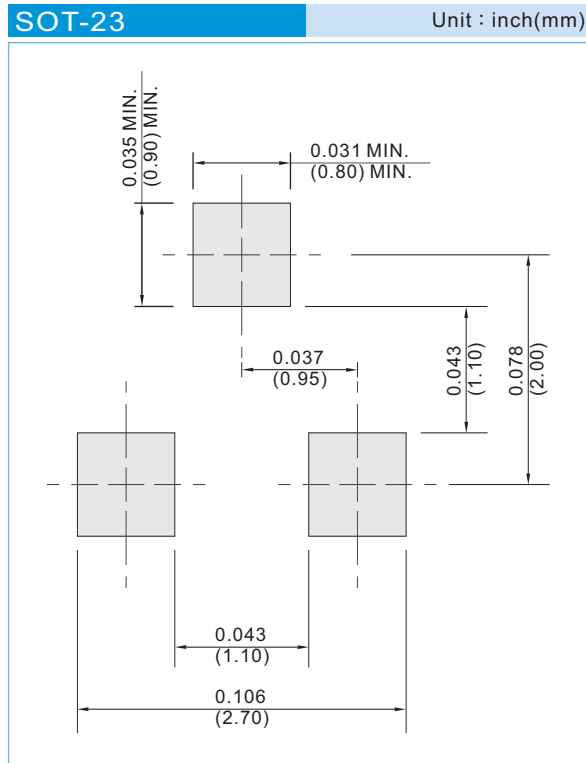


Fig. 3- Total capacitance vs. Reverse Voltage



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
 - T/R - 12K per 13" plastic Reel
 - T/R - 3K per 7" plastic Reel



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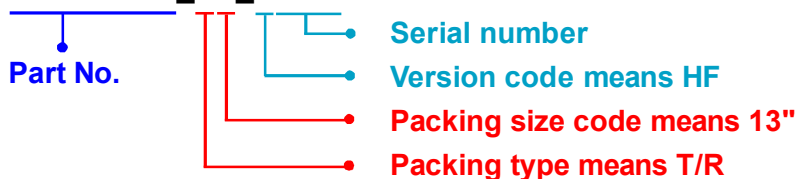
Part No_packing code_Version

BAS116-AU_R1_000A1

BAS116-AU_R2_000A1

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |



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