



# BAW56 / BAV70 / BAV99 / BAL99

## SURFACE MOUNT SWITCHING DIODES

**VOLTAGE** 100 Volt **POWER** 250mWatt

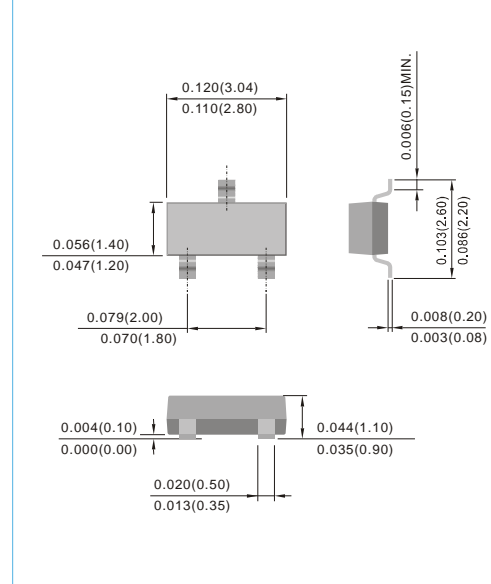
**SOT-23** Unit : inch(mm)

### FEATURES

- Fast switching speed.
- Surface mount package ideally suited for automatic insertion
- Electrically identical to Standard JEDEC
- High Conductance
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

- Case: SOT-23, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Apprx. Weight: 0.0003 ounces, 0.0084 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. For capacitive load, derate current by 20%.

| PARAMETER   | SYMBOL                             | BAW56   | BAV70          | BAV99  | BAL99       | UNITS           |
|---|------------------------------------|---|----------------|--------|-------------|-----------------|
| Marking Code  | -                                  | JC  | JA             | JB     | JF          | -               |
| Reverse Voltage   | $V_R$                              | 75  |                |        |             | V               |
| Peak Reverse Voltage  | $V_{RM}$                           | 100   |                |        |             | V               |
| Rectified Current (Average), Half Wave Rectification with Resistive Load and $f \geq 50$ Hz | $I_O$                              | 150   |                |        |             | mA              |
| Peak Forward Surge Current, 0.001ms   | $I_{FSM}$                          | 4.0   |                |        |             | A               |
| Power Dissipation Derate Above 25°C   | $P_{TOT}$                          | 250   |                |        |             | mW              |
| Maximum Forward Voltage   | $V_F$                              | 0.715 @ $I_F=1mA$<br>0.855 @ $I_F=10mA$<br>1.0 @ $I_F=50mA$<br>1.25 @ $I_F=150mA$ |                |        |             | V               |
| Maximum DC Reverse Current at 25V<br>75V  | $I_R$                              | 0.03<br>2.5   |                |        |             | $\mu A$         |
| Maximum Junction Capacitance (Notes 1)  | $C_J$                              | 1.5   |                |        |             | pF              |
| Maximum Reverse Recovery Time (Notes 2)   | $t_{rr}$                           | 4.0   |                |        |             | ns              |
| Typical Thermal Resistance  | $R_{\theta JA}$<br>$R_{\theta JC}$ | 360<br>205  |                |        |             | $^{\circ}C / W$ |
| Junction Temperature Range  | $T_J$                              | -55 to +150   |                |        |             | $^{\circ}C$     |
| Circuit Figure  | -                                  | Common Anode  | Common Cathode | Series | Single(Alt) | -               |

NOTE:

1.  $C_J$  at  $V_R=0$ ,  $f=1MHz$
2. From  $I_F=10mA$  to  $I_R=1mA$ ,  $V_R=6Volts$ ,  $R_L=100\Omega$

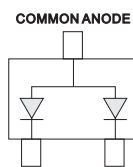


Fig.15

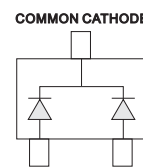


Fig.16

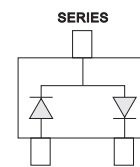


Fig.17

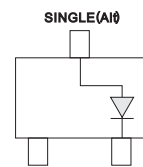
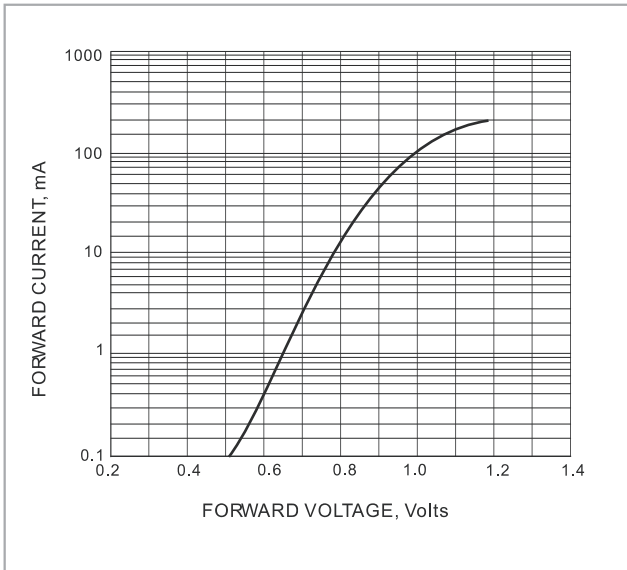


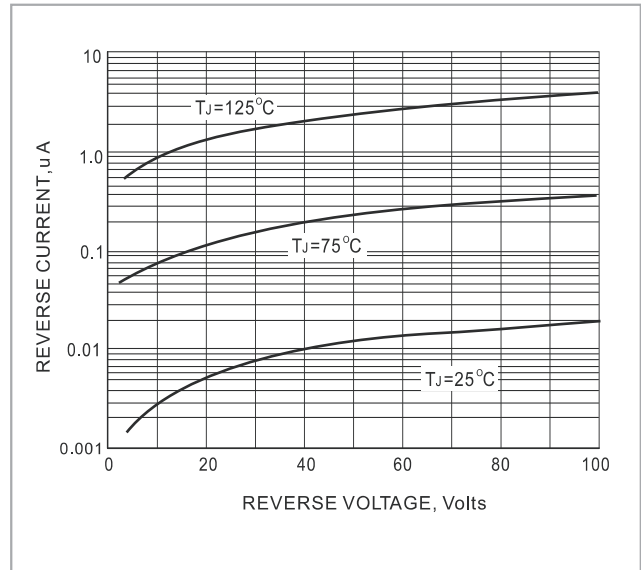
Fig.18



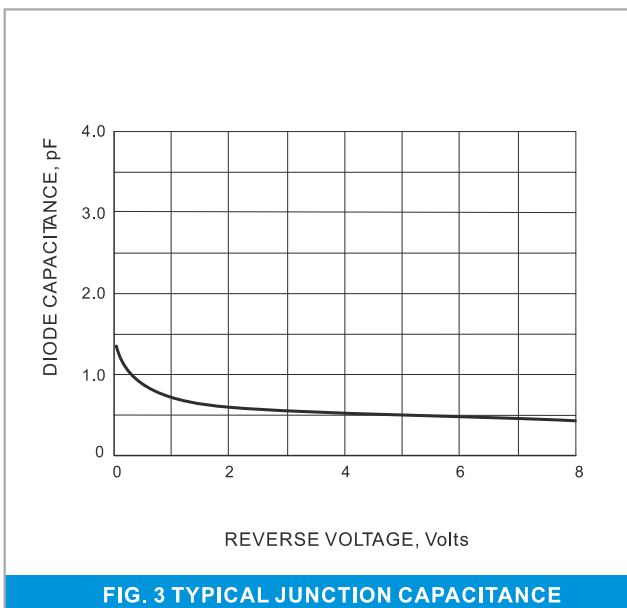
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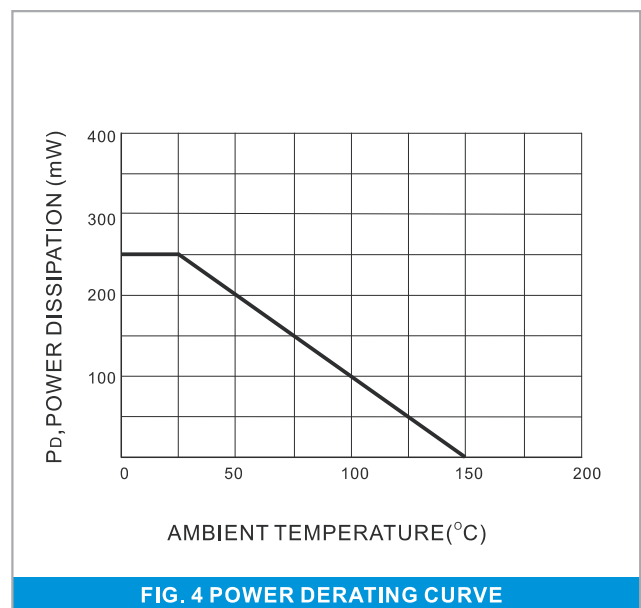
**FIG. 1-TYPICAL FORWARD CHARACTERISTIC**



**FIG. 2-TYPICAL REVERSE CHARACTERISTICS**



**FIG. 3 TYPICAL JUNCTION CAPACITANCE**



**FIG. 4 POWER DERATING CURVE**

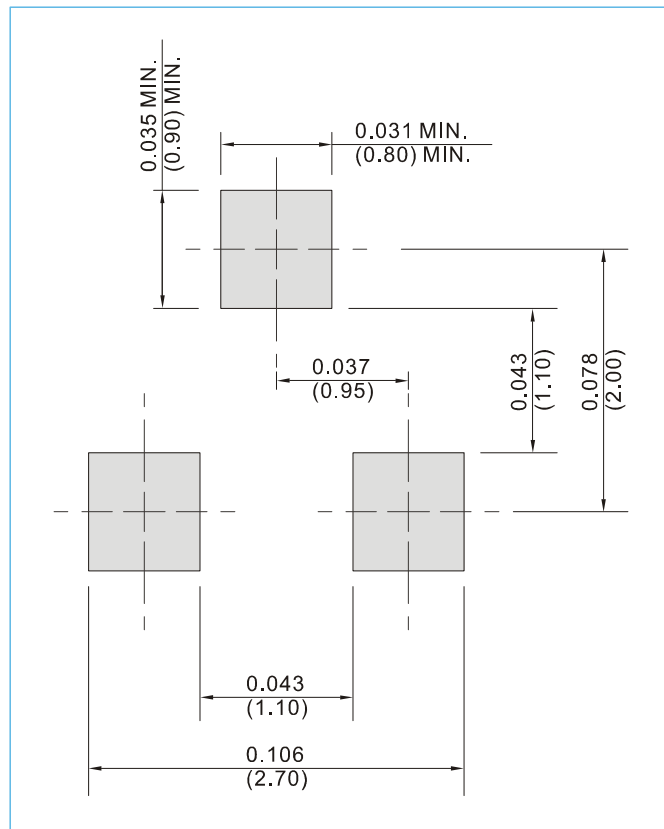


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### MOUNTING PAD LAYOUT

SOT-23

Unit : inch(mm)



### ORDER INFORMATION

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



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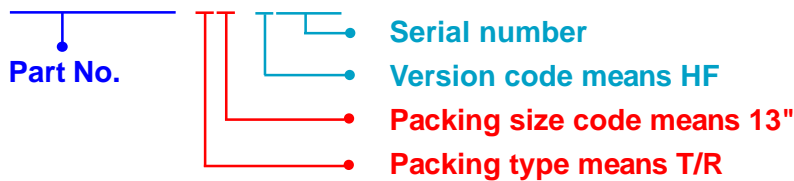
### Part No\_packing code\_Version

BAW56\_R1\_00001

BAW56\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



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



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