

# BAW56-AU / BAV70-AU / BAV99-AU / BAL99-AU

## SURFACE MOUNT SWITCHING DIODES

|                |                  |              |                  |
|----------------|------------------|--------------|------------------|
| <b>VOLTAGE</b> | <b>100 Volts</b> | <b>POWER</b> | <b>250mWatts</b> |
|----------------|------------------|--------------|------------------|

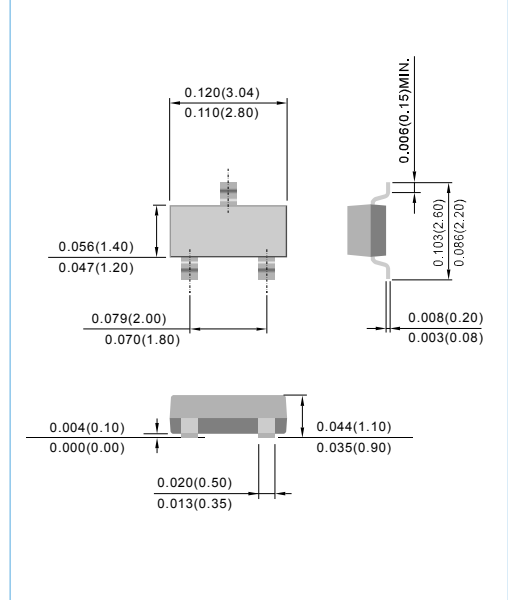
**SOT-23** Unit : inch(mm)

### FEATURES

- Fast switching speed.
- Surface mount package Ideally Suited for Automatic insertion
- Electrically Identical to Standard JEDEC
- High Conductance
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in comply with EU RoHS 2011/65/EU directives.
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case: SOT-23, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Apporx. 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-AU                                                                          | BAV70-AU       | BAV99-AU | BAL99-AU    | 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                                                                        |                |          |             | °C / W  |
| Junction Temperature Range                                                                  | $T_J$                              | -55 to +150                                                                       |                |          |             | °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  $I_R=1mA$ ,  $V_R=6Volts$ ,  $R_L=100\Omega$

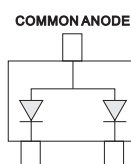


Fig.15

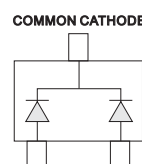


Fig.16

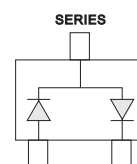


Fig.17

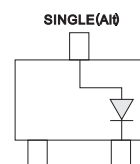


Fig.18

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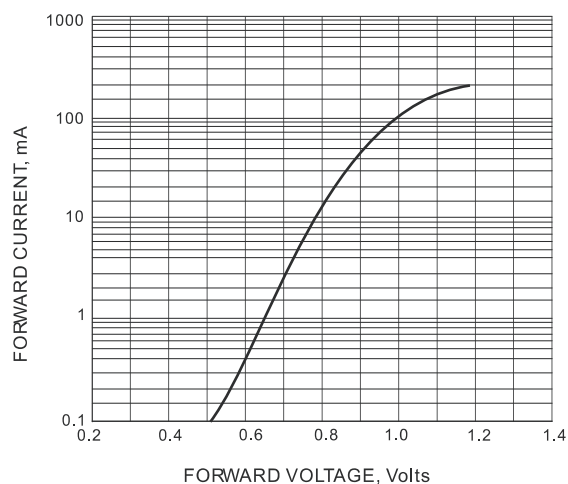


FIG. 1-TYPICAL FORWARD CHARACTERISTIC

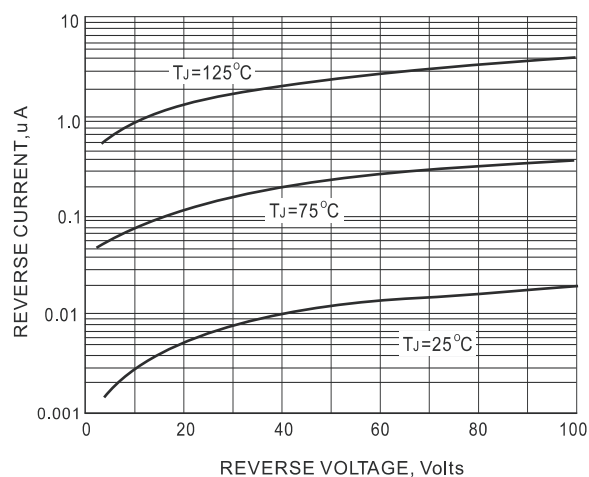


FIG. 2-TYPICAL REVERSE CHARACTERISTICS

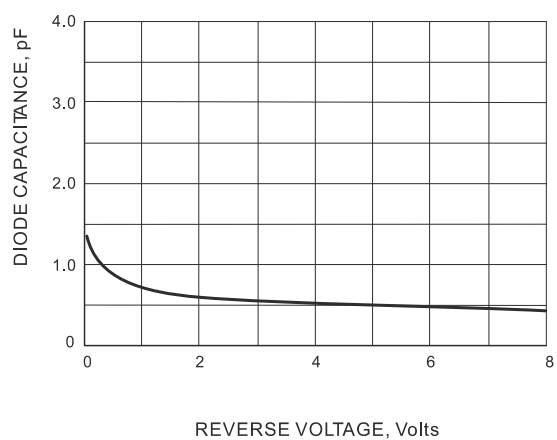


FIG. 3 TYPICAL JUNCTION CAPACITANCE

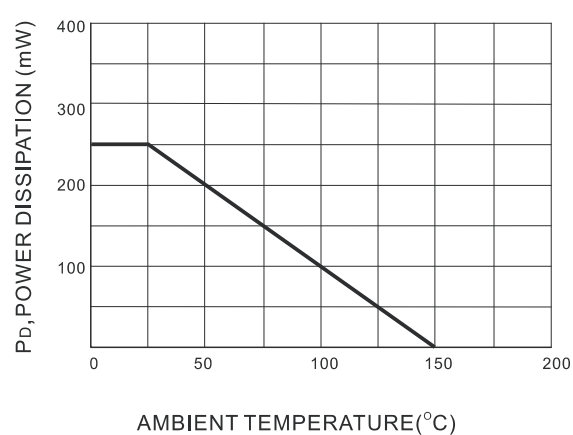
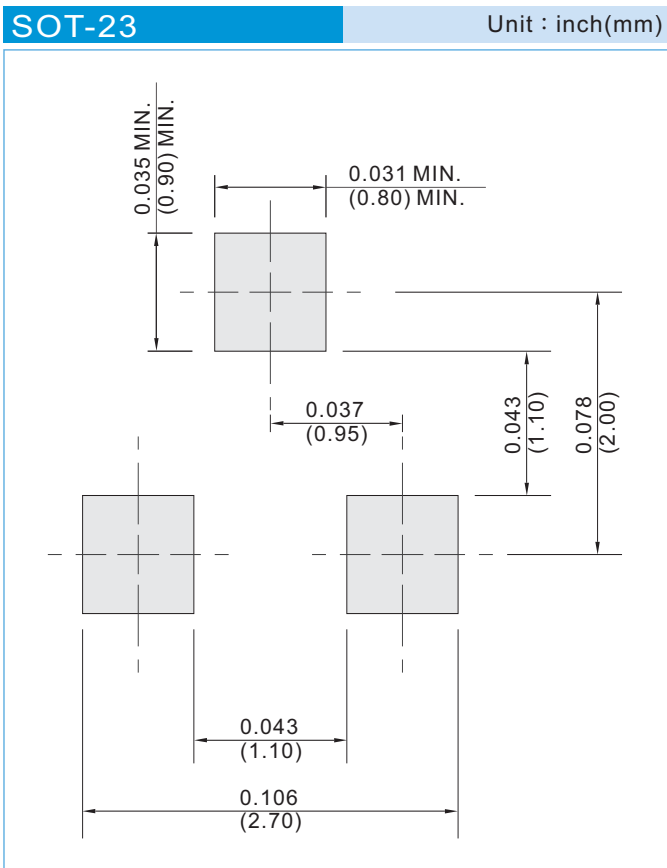


FIG. 4 POWER DERATING CURVE

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### MOUNTING PAD LAYOUT



### ORDER INFORMATION

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

## BAW56-AU / BAV70-AU / BAV99-AU / BAL99-AU

### Part No\_packing code\_Version

BAW56-AU\_R1\_000A1

BAW56-AU\_R2\_000A1

For example :

**RB500V-40\_R2\_00001**

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

| 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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