RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

**BAW56/ BAV70/ BAV99**

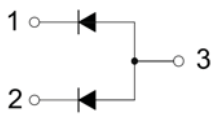
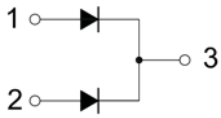
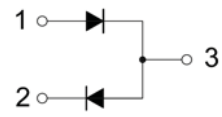
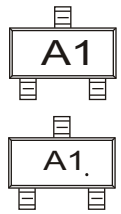
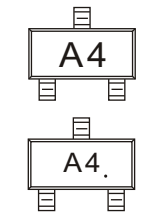
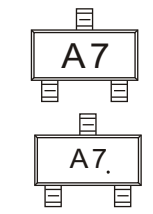
# SWITCHING DIODE

FEATURES

- Fast Switching Speed
- For General Purpose Switching Applications
- High Conductance
- P/N suffix V means AEC-Q101 qualified, e.g:BAW56V
- P/N suffix V means Halogen-free

**SOT-23**




| BAW56 | BAV70 | BAV99 |
|---|---|---|
|  |  |  |
| **MARKING:A1/A1.** | **MARKING:A4/A4.** | **MARKING: A7/A7.** |
|  |  |  |



NOTE:Body marking with '.' for automotive grade

Maximum Ratings @Ta=25℃

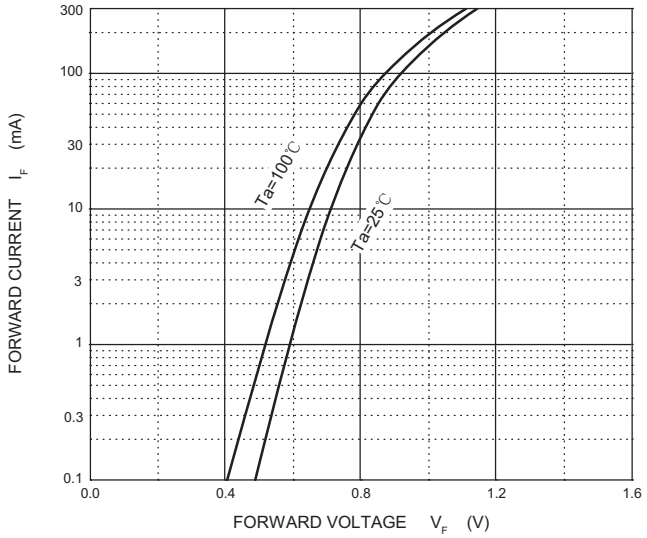
| Parameter | Symbol | Limit | Unit |
|---|---|---|---|
| Reverse Voltage | $V_R$ | 100 | V |
| Forward Current | $I_F$ | 215 | mA |
| Non-Repetitive Peak Forward Surge Current @ t=8.3ms | $I_{FSM}$ | 2.0 | A |
| Typical Current Squared Time | $I^2T$ | 0.02 | $A^2S$ |
| Power Dissipation | $P_D$ | 225 | mW |
| Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 556 | ℃/W |
| Junction Temperature | $T_J$ | -55~+150 | ℃ |
| Storage Temperature range | $T_{STG}$ | -55~+150 | ℃ |

Electrical Characteristics @Ta =25℃

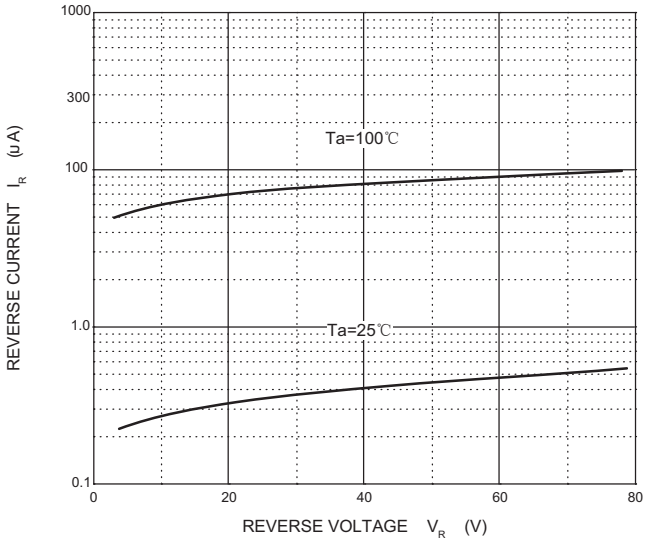
| Parameter | Symbol | Min | Typ | Max | Unit | Conditions |
|---|---|---|---|---|---|---|
| Reverse breakdown voltage | $V_R$ | 100 | | | V | $I_R$=100μA |
| Forward voltage | $V_{F1}$ | | | 0.715 | V | $I_F$=1mA |
| | $V_{F2}$ | | | 0.855 | V | $I_F$=10mA |
| | $V_{F3}$ | | | 1 | V | $I_F$=50mA |
| | $V_{F4}$ | | | 1.25 | V | $I_F$=150mA |
| Reverse current | $I_R$ | | | 0.5 | μA | $V_R$=70V |
| Capacitance between terminals | $C_T$ | | | 1.5 | pF | $V_R$=0,f=1MHz |
| Reverse recovery time | $t_{rr}$ | | | 4 | ns | $I_F = I_R$ = 10mA, Irr= 0.1 x $I_R$, $R_L$ = 100Ω |

# RATING AND CHARACTERISTIC CURVES ( BAW56/BAV70/BAV99)

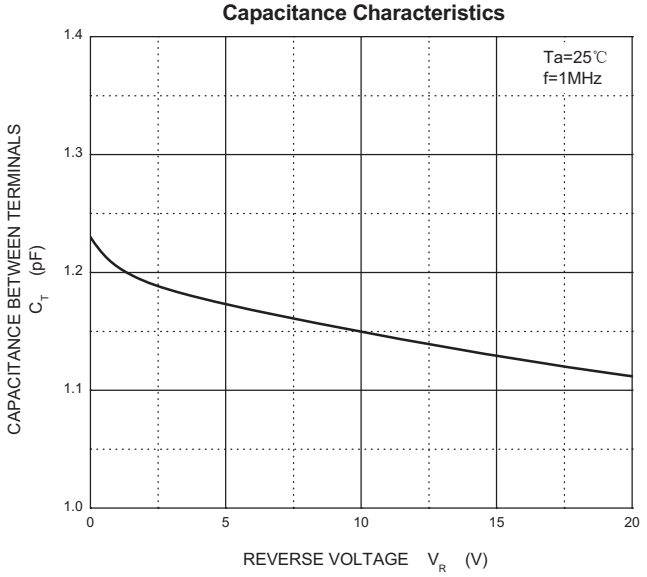
**Forward Characteristics**



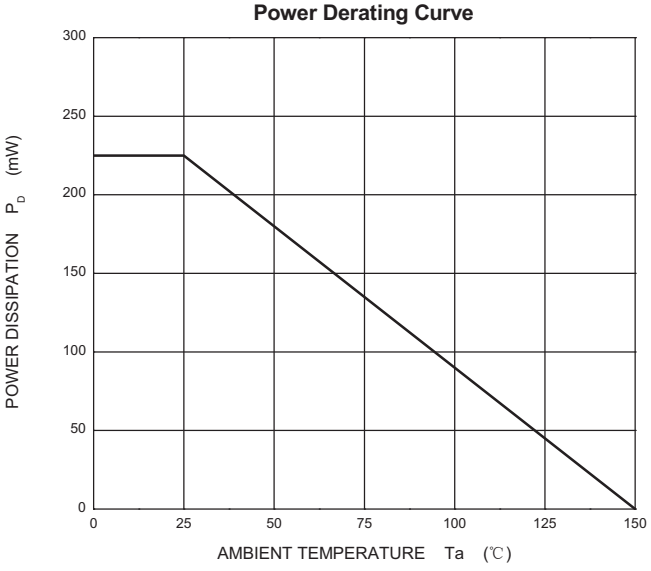

**Reverse Characteristics**



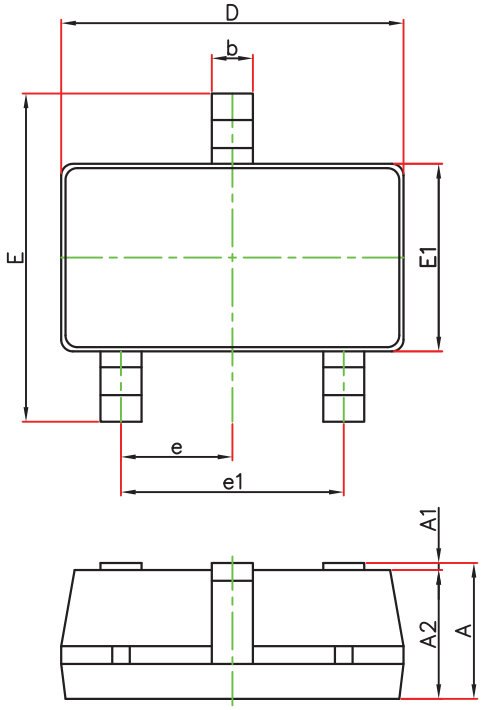

**Capacitance Characteristics**

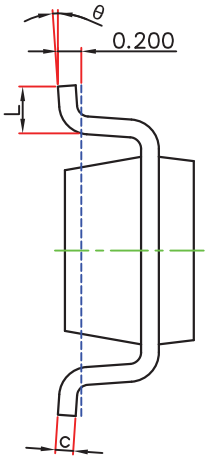



**Power Derating Curve**



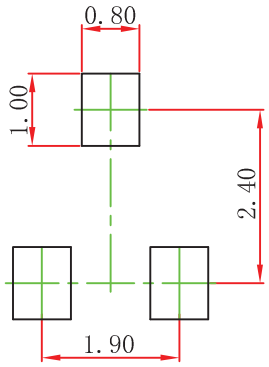
## SOT-23 Package Outline Dimensions




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 1.050 | 1.250 | 0.041 | 0.049 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 1.050 | 1.150 | 0.041 | 0.045 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.100 | 0.200 | 0.004 | 0.008 |
| D | 2.820 | 3.020 | 0.111 | 0.119 |
| E1 | 1.500 | 1.700 | 0.059 | 0.067 |
| E | 2.650 | 2.950 | 0.104 | 0.116 |
| e | 0.950(BSC) | | 0.037(BSC) | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.300 | 0.600 | 0.012 | 0.024 |
| θ | 0° | 8° | 0° | 8° |

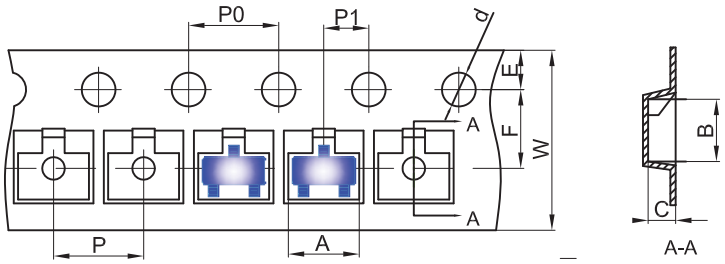
## SOT-23-3L Suggested Pad Layout




Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

# SOT-23 Tape and Reel

## SOT-23-3L Embossed Carrier Tape

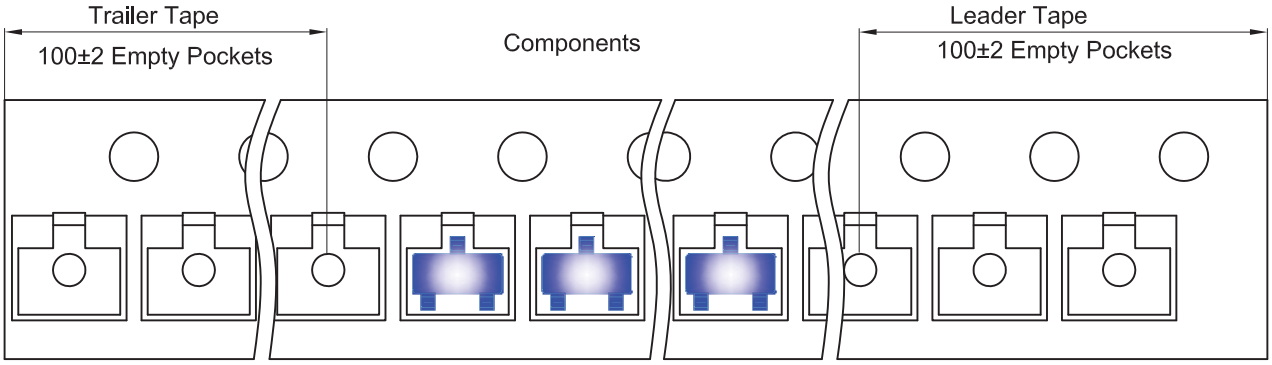



Packaging Description:

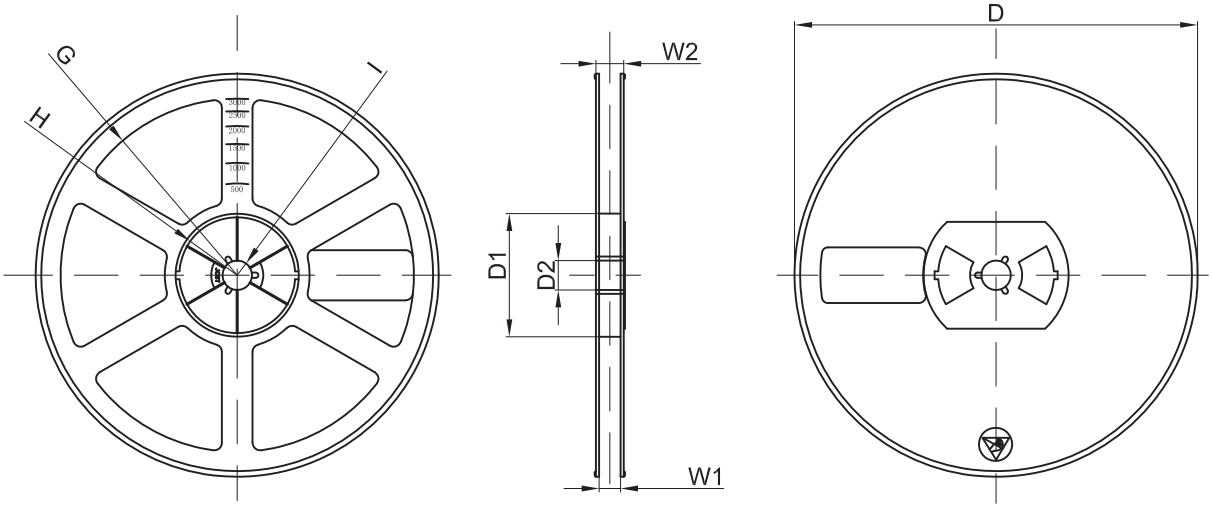
SOT-23-3L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 18.0cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

| Dimensions are in millimeter | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W |
| SOT-23-3L | 3.18 | 3.28 | 1.32 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

## SOT-23-3L Tape Leader and Trailer




## SOT-23-3L Reel




| Dimensions are in millimeter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Reel Option | D | D1 | D2 | G | H | I | W1 | W2 |
| 7"Dia | Ø180.00 | 60.00 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 13.10 |

| REEL | Packing code | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) |
|---|---|---|---|---|---|---|
| 3000 pcs | -T | 7 inch | 30,000 pcs | 203×203×195 | 120,000 pcs | 438×438×220 |

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