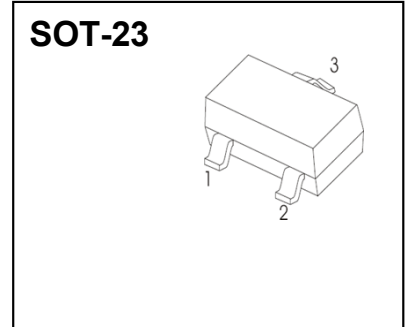


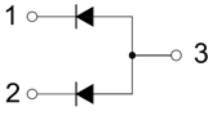
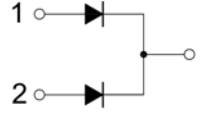
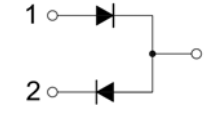
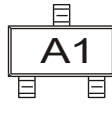
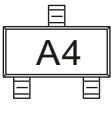
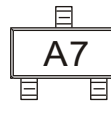
## SOT-23 Plastic-Encapsulate Diodes

### BAW56/BAV70/BAV99 SWITCHING DIODE

#### FEATURES

- Fast Switching Speed
- For General Purpose Switching Applications
- High Conductance



| BAW56                                                                              | BAV70                                                                              | BAV99                                                                              |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|   |   |   |
| MARKING:A1                                                                         | MARKING:A4                                                                         | MARKING:A7                                                                         |
|  |  |  |

#### Maximum Ratings @Ta=25°C

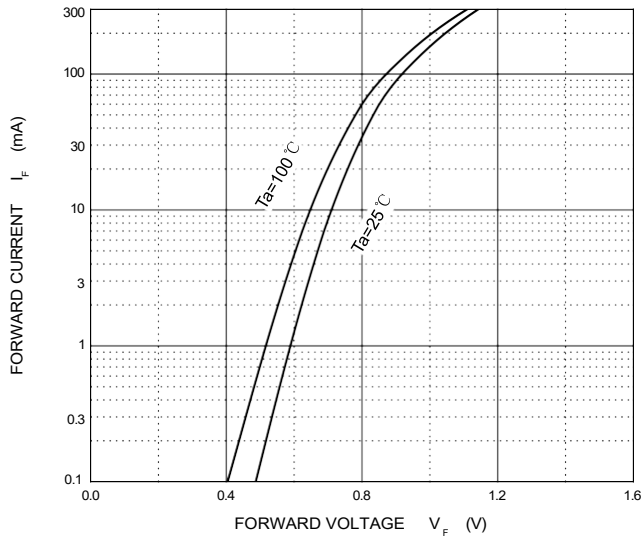
| Parameter                                          | Symbol          | Limit    | Unit |
|----------------------------------------------------|-----------------|----------|------|
| Reverse Voltage                                    | $V_R$           | 70       | V    |
| Forward Current                                    | $I_F$           | 200      | mA   |
| Non-Repetitive Peak Forward Surge Current @t=8.3ms | $I_{FSM}$       | 2.0      | A    |
| Power Dissipation                                  | $P_D$           | 225      | mW   |
| Thermal Resistance Junction to Ambient             | $R_{\theta JA}$ | 556      | °C/W |
| Junction Temperature                               | $T_J$           | 150      | °C   |
| Storage Temperature range                          | $T_{STG}$       | -55~+150 | °C   |

#### Electrical Characteristics @Ta=25°C

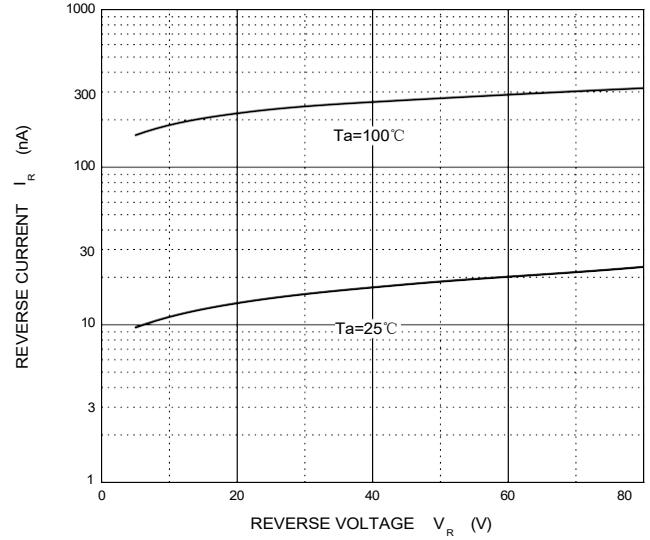
| Parameter                     | Symbol   | Test Conditions                                                   | Min | Typ | Max   | Unit    |
|-------------------------------|----------|-------------------------------------------------------------------|-----|-----|-------|---------|
| Reverse breakdown voltage     | $V_R$    | $I_R=100\mu A$                                                    | 70  |     |       | V       |
| Forward voltage               | $V_{F1}$ | $I_F=1mA$                                                         |     |     | 0.715 | V       |
|                               | $V_{F2}$ | $I_F=10mA$                                                        |     |     | 0.855 | V       |
|                               | $V_{F3}$ | $I_F=50mA$                                                        |     |     | 1     | V       |
|                               | $V_{F4}$ | $I_F=150mA$                                                       |     |     | 1.25  | V       |
| Reverse current               | $I_R$    | $V_R=70V$                                                         |     |     | 2.5   | $\mu A$ |
| Capacitance between terminals | $C_T$    | $V_R=0, f=1MHz$                                                   |     |     | 1.5   | pF      |
| Reverse recovery time         | $t_{rr}$ | $I_F = I_R = 10mA,$<br>$I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ |     |     | 6     | ns      |

## Typical Characteristics

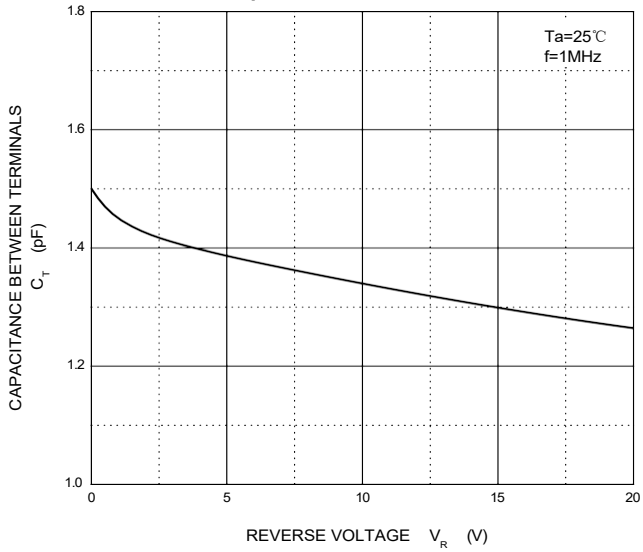
**Forward Characteristics**



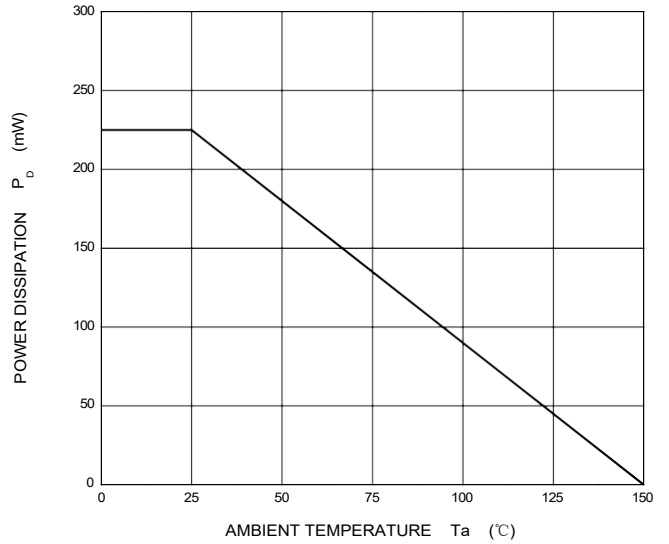
**Reverse Characteristics**



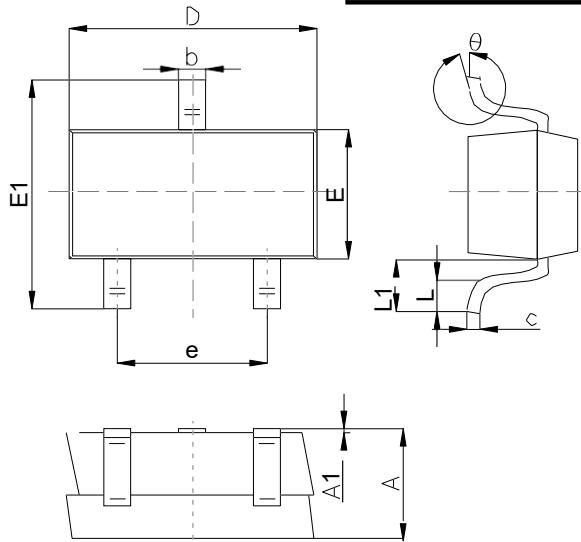
**Capacitance Characteristics**



**Power Derating Curve**

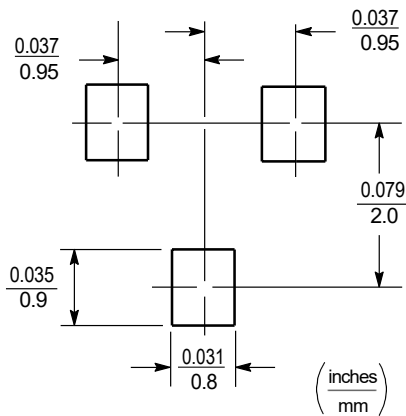


## SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |     |      |
|--------|---------------------------|-----|------|
|        | Min                       | Typ | Max  |
| A      | 0.65                      |     | 1.40 |
| A1     | 0.00                      |     | 0.20 |
| b      | 0.30                      |     | 0.55 |
| c      | 0.08                      |     | 0.20 |
| D      | 2.70                      |     | 3.10 |
| E      | 1.15                      |     | 1.65 |
| E1     | 2.10                      |     | 2.80 |
| e      | 1.70                      |     | 2.10 |
| L      | 0.15                      |     | 0.50 |
| L1     | 0.35                      |     | 0.70 |
| θ      | 0°                        |     | 12°  |

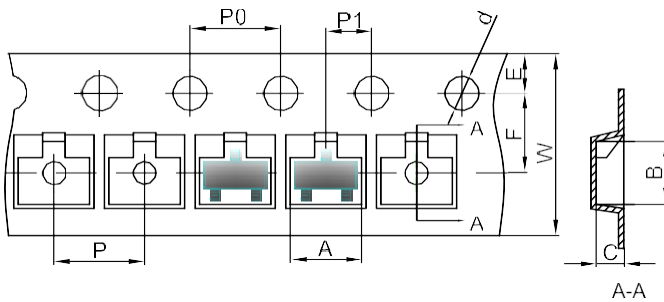
## Suggested Pad Layout



Note:

1. Controlling dimension: in/millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

## SOT-23 Embossed Carrier Tape

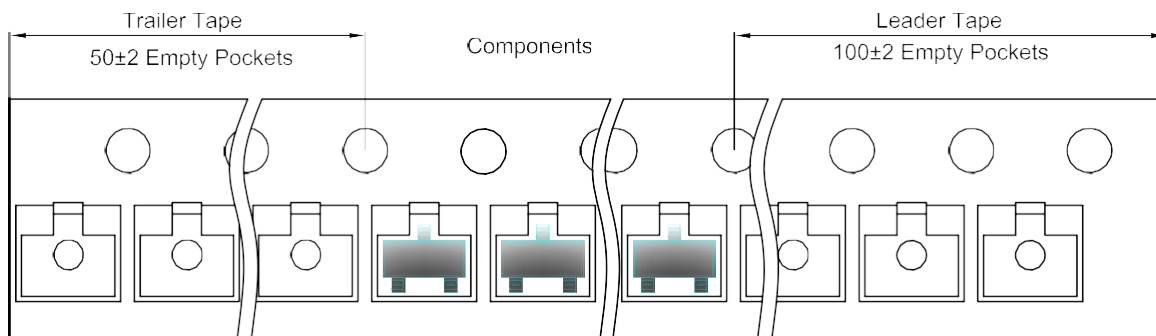


### Packaging Description:

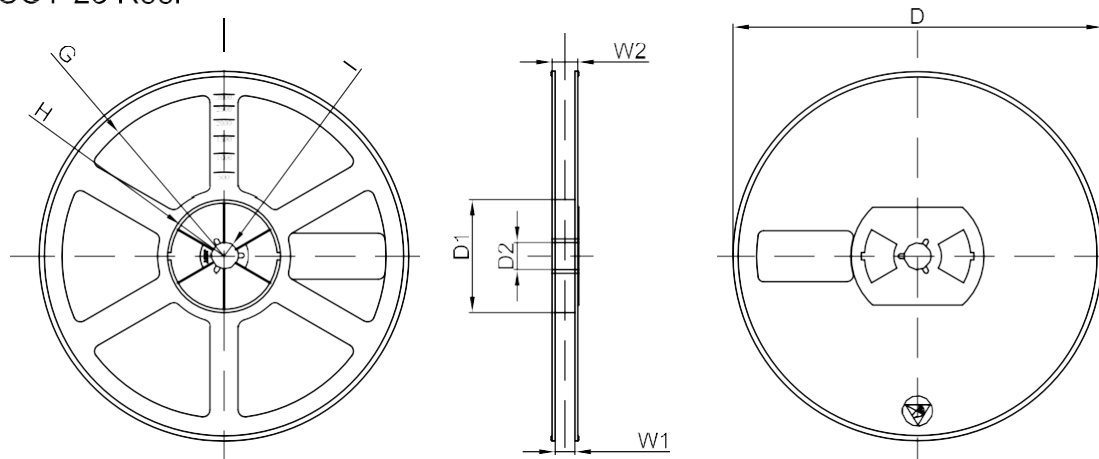
SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and are 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                       | 3.15 | 2.77 | 1.22 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

## SOT-23 Tape Leader and Trailer



## SOT-23 Reel



| Dimensions are in millimeter |         |       |       |        |        |       |      |       |
|------------------------------|---------|-------|-------|--------|--------|-------|------|-------|
| Reel Option                  | D       | D1    | D2    | G      | H      | I     | W1   | W2    |
| 7"Dia                        | Ø178.00 | 54.40 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 12.30 |

| REEL     | Reel Size | Box        | Box Size(mm) | Carton      | Carton Size(mm) | G.W.(kg) |
|----------|-----------|------------|--------------|-------------|-----------------|----------|
| 3000 pcs | 7 Inch    | 45,000 pcs | 190*190*190  | 180,000 pcs | 400*400*220     |          |