

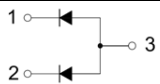
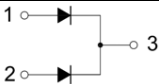
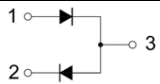
## SOT-23 Plastic-Encapsulate Diodes

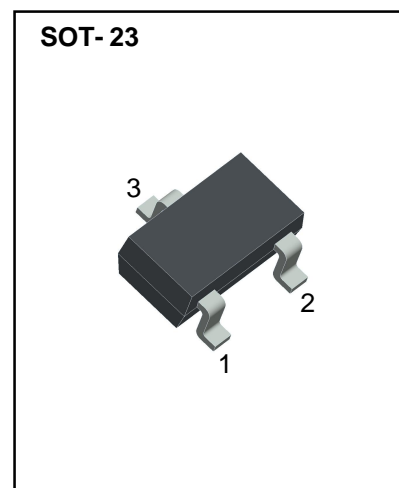
### Switching Diodes

#### Features

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

#### Marking:

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



#### Limiting Values( Absolute Maximum Rating)

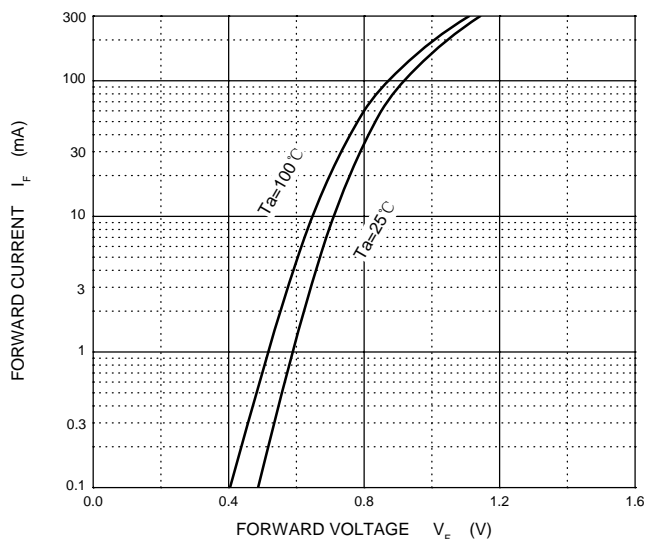
| Parameter   | Symbol          | Limit    | Unit          |
|---|-----------------|----------|---------------|
| Reverse Voltage                                       | $V_R$           | 70       | V             |
| Forward Current                                       | $I_F$           | 200      | 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      | $^{\circ}C/W$ |
| Junction Temperature                                  | $T_J$           | 150      | $^{\circ}C$   |
| Storage Temperature range                             | $T_{STG}$       | -55~+150 | $^{\circ}C$   |

#### Electrical Characteristics (Ta=25 $^{\circ}C$ Unless otherwise specified)

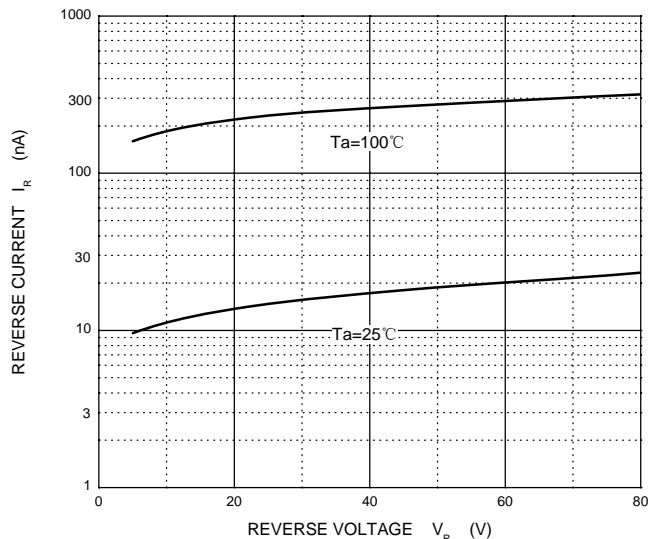
| Parameter                     | Symbol   | Min | Typ | Max   | Unit    | Conditions  |
|-------------------------------|----------|-----|-----|-------|---------|---|
| Reverse breakdown voltage     | $V_R$    | 70  |     |       | V       | $I_R=100\mu A$  |
| Forward voltage               | $V_{F1}$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

# Typical Characteristics

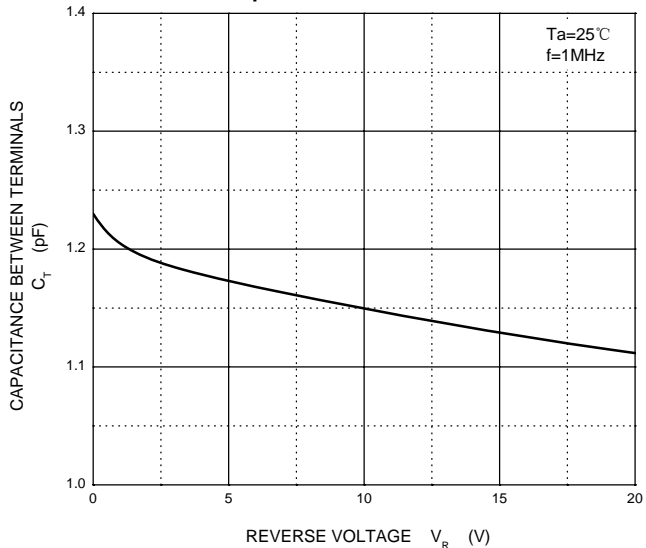
**Forward Characteristics**



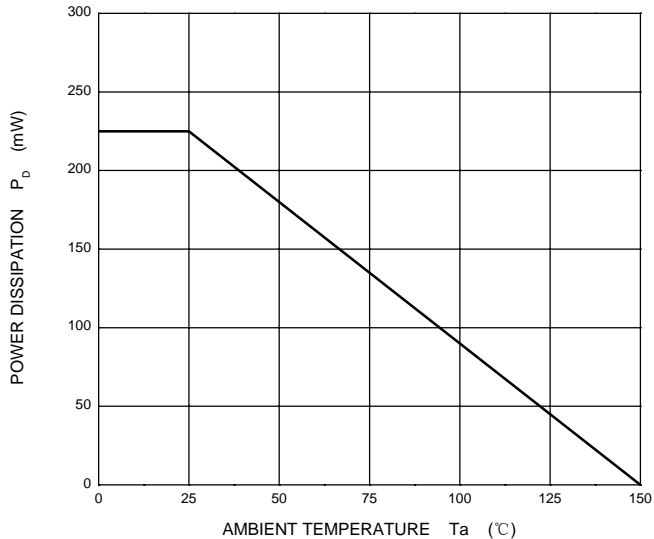
**Reverse Characteristics**



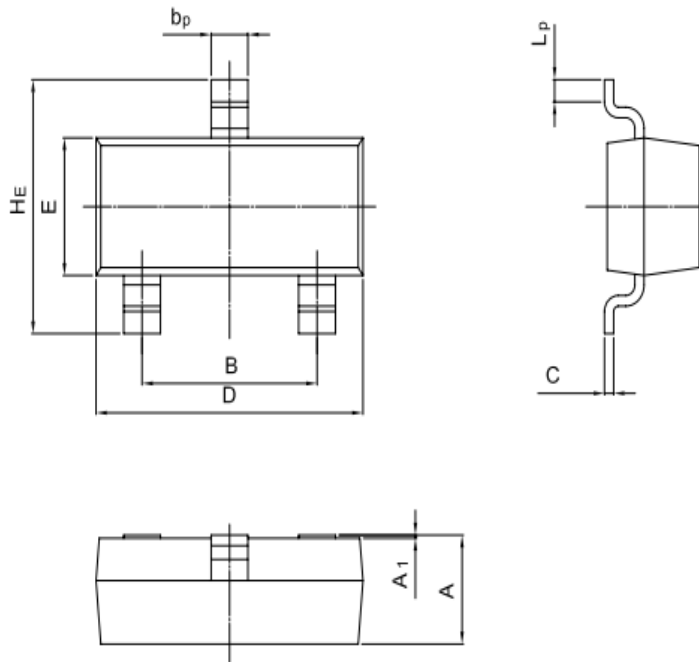
**Capacitance Characteristics**



**Power Derating Curve**

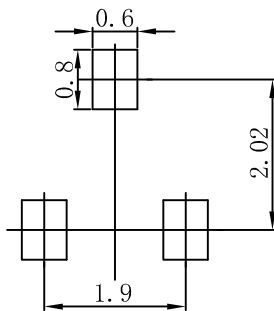


## SOT-23 Package Outline Dimensions



| UNIT | A            | B            | bp           | C            | D            | E            | HE           | A1             | Lp           |
|------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|--------------|
| mm   | 1.40<br>0.95 | 2.04<br>1.78 | 0.50<br>0.35 | 0.19<br>0.08 | 3.10<br>2.70 | 1.65<br>1.20 | 3.00<br>2.20 | 0.100<br>0.013 | 0.50<br>0.20 |

## SOT-23 Suggested Pad Layout



### Note:

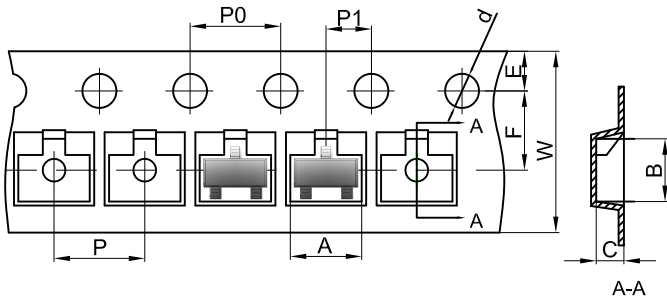
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.

### NOTICE

JSMD reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSMD does not assume any liability arising out of the application or use of any product described herein.

# Reel Taping Specifications For Surface Mount Devices-SOT-23

## SOT-23 Embossed Carrier Tape



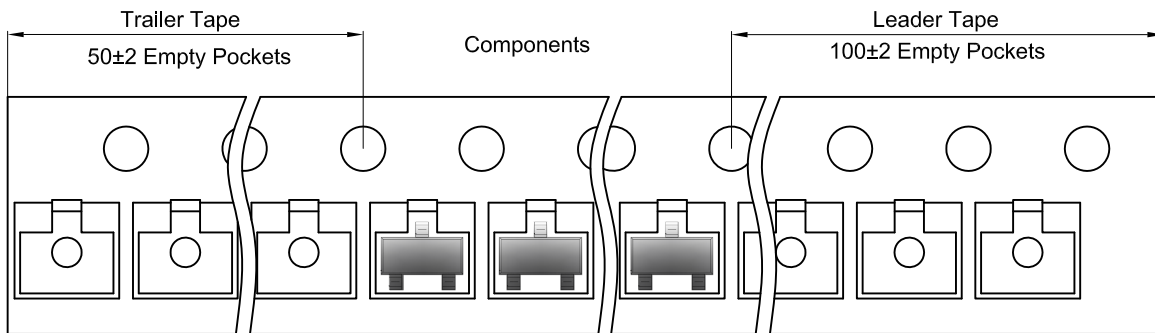
### Packaging Description:

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 is made of polystyrene plastic (anti-static coated).

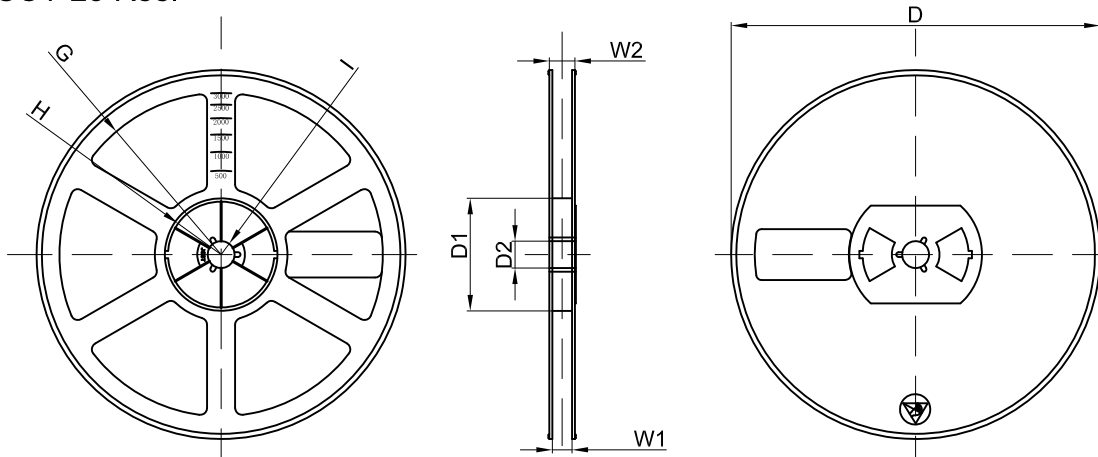
Dimensions are in millimeter

| Pkg type | A    | B    | C    | d     | E    | F    | P0   | P    | P1   | W    |
|----------|------|------|------|-------|------|------|------|------|------|------|
| SOT-23   | 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 | 203×203×195  | 180,000 pcs | 438×438×230     |          |

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