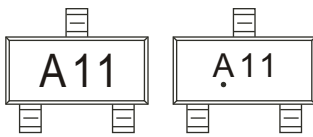


## LOW LEAKAGE DIODE

### FEATURES

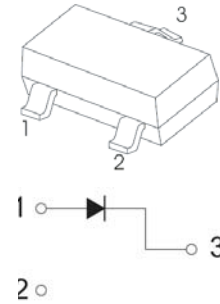
- Low Leakage
- High Conductance

### MARKING: A11



Solid dot = Green molding compound device, if none, the normal device.

### SOT-23



### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted )

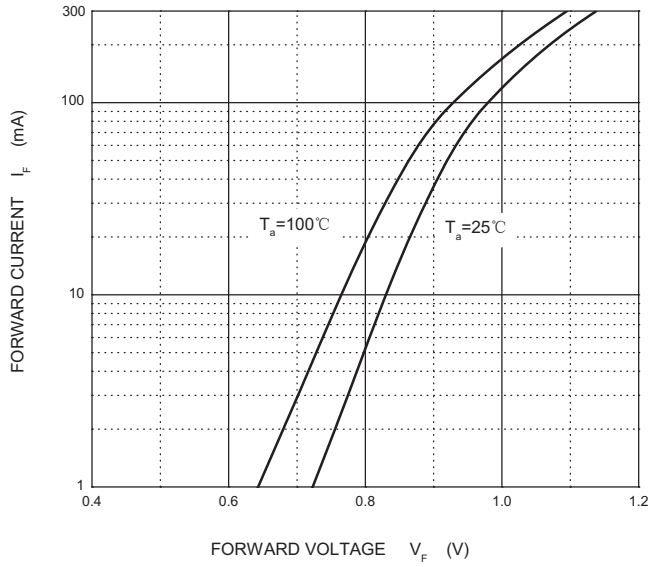
| Symbol          | Parameter                                                    | Value    | Unit                 |
|-----------------|--------------------------------------------------------------|----------|----------------------|
| $V_R$           | DC Blocking Voltage                                          | 200      | V                    |
| $I_O$           | Continuous Forward Current                                   | 200      | mA                   |
| $I_{FM}$        | Peak Forward Current                                         | 700      | mA                   |
| $I_{FSM}$       | Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$ | 2.0      | A                    |
| $P_D$           | Power Dissipation                                            | 350      | mW                   |
| $R_{\theta JA}$ | Thermal Resistance from Junction to Ambient                  | 357      | $^{\circ}\text{C/W}$ |
| $T_j$           | Junction Temperature                                         | 150      | $^{\circ}\text{C}$   |
| $T_{stg}$       | Storage Temperature                                          | -55~+150 | $^{\circ}\text{C}$   |

### ELECTRICAL CHARACTERISTICS( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

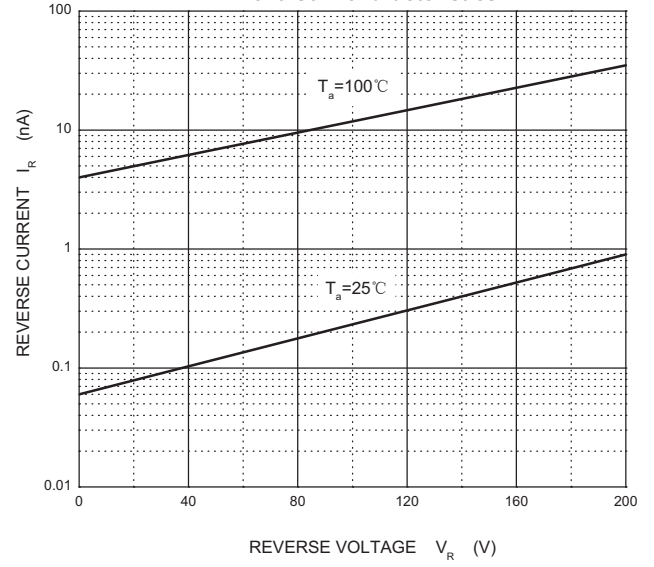
| Parameter         | Symbol     | Test conditions                | Min | Typ | Max  | Unit |
|-------------------|------------|--------------------------------|-----|-----|------|------|
| Reverse voltage   | $V_{(BR)}$ | $I_R=5\mu\text{A}$             | 200 |     |      | V    |
| Reverse current   | $I_R$      | $V_R=180\text{V}$              |     |     | 10   | nA   |
| Forward voltage   | $V_F$      | $I_F=1\text{mA}$               |     |     | 0.75 | V    |
|                   |            | $I_F=10\text{mA}$              |     |     | 0.85 |      |
|                   |            | $I_F=50\text{mA}$              |     |     | 0.95 |      |
|                   |            | $I_F=100\text{mA}$             |     |     | 1.1  |      |
|                   |            | $I_F=200\text{mA}$             |     |     | 1.3  |      |
|                   |            | $I_F=300\text{mA}$             |     |     | 1.5  |      |
| Total capacitance | $C_{tot}$  | $V_R=0\text{V}, f=1\text{MHz}$ |     |     | 4    | pF   |

# RATING AND CHARACTERISTICS CURVES ( MMBD1501A )

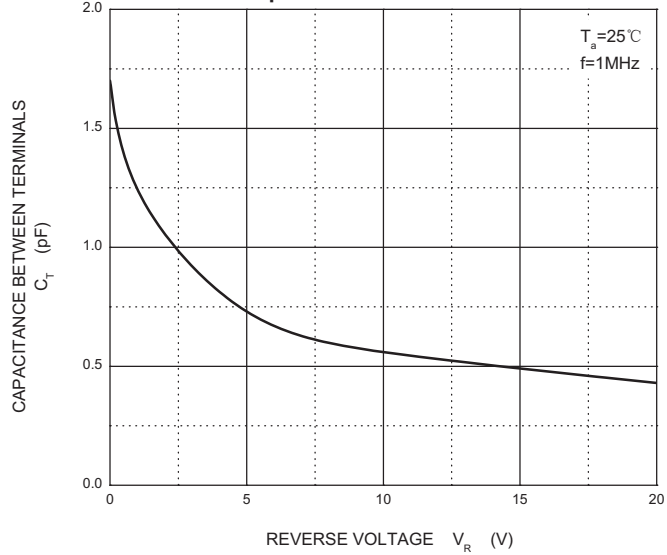
**Forward Characteristics**



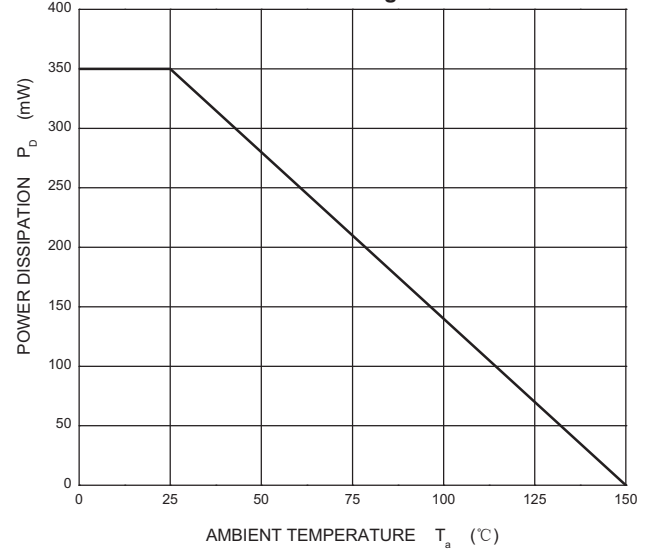
**Reverse Characteristics**



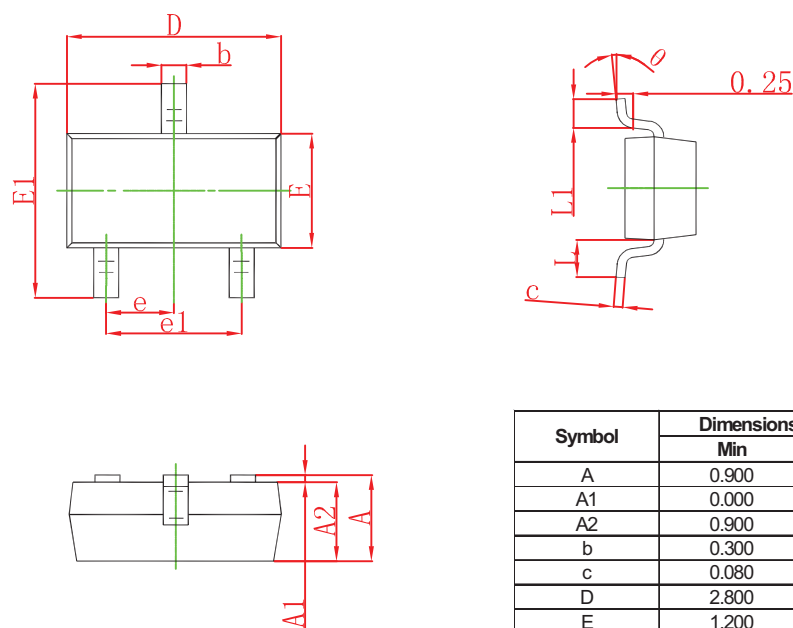
**Capacitance Characteristics**



**Power Derating Curve**

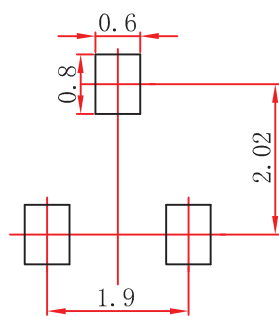


SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 0.900                     | 1.150 | 0.035                | 0.045 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.900                     | 1.050 | 0.035                | 0.041 |
| b      | 0.300                     | 0.500 | 0.012                | 0.020 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 2.800                     | 3.000 | 0.110                | 0.118 |
| E      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E1     | 2.250                     | 2.550 | 0.089                | 0.100 |
| e      | 0.950 TYP                 |       | 0.037 TYP            |       |
| e1     | 1.800                     | 2.000 | 0.071                | 0.079 |
| L      | 0.550 REF                 |       | 0.022 REF            |       |
| L1     | 0.300                     | 0.500 | 0.012                | 0.020 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

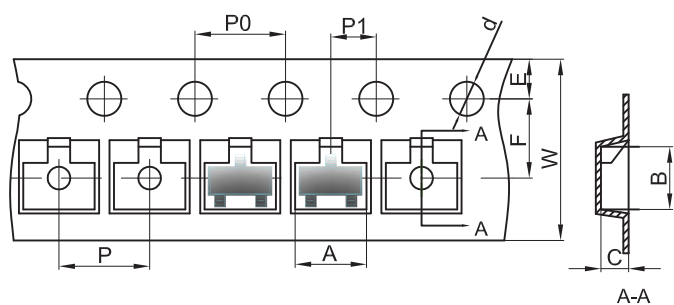
SOT-23 Suggested Pad Layout



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 Embossed Carrier Tape

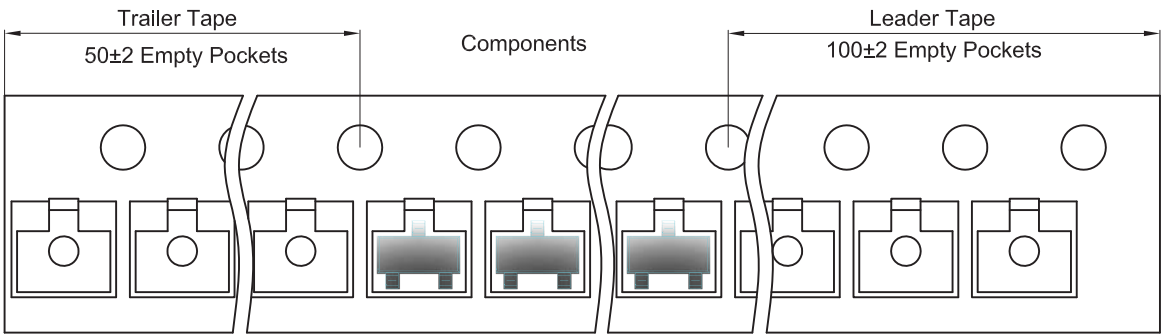


Packaging Description:

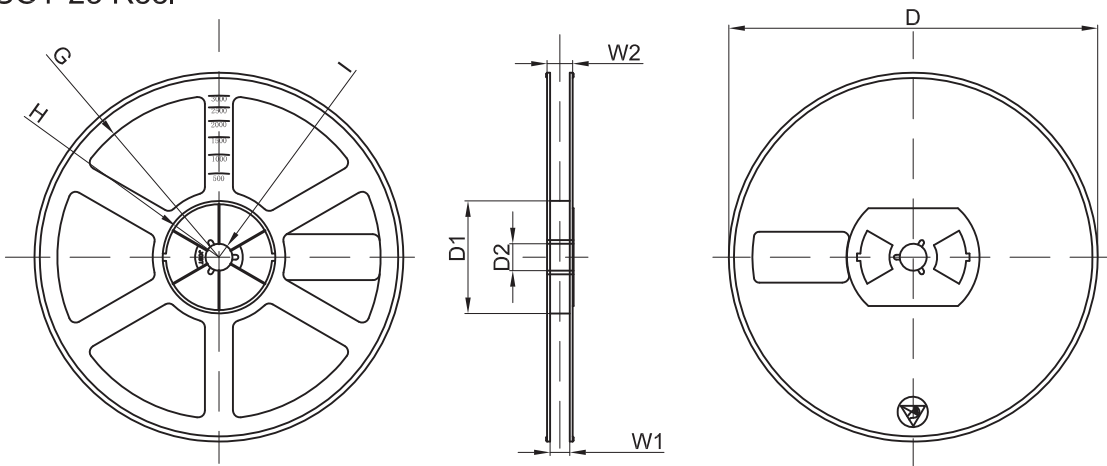
SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in 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 | 438×438×220     |          |

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