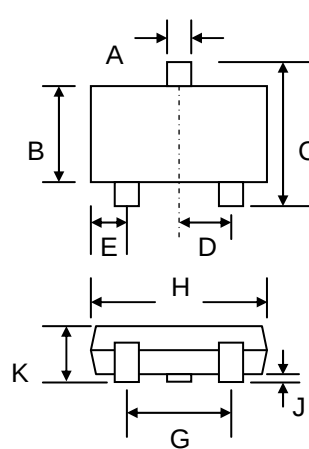


### Features

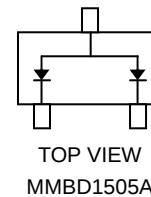
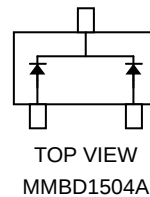
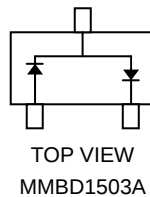
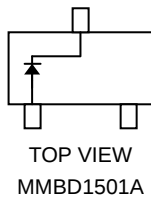
- **Very Low Leakage Current**
- Single and Dual Diode
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- Plastic Material – UL Recognition Flammability Classification 94V-0

### Mechanical Data

- Case: SOT-23, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Weight: 0.008 grams (approx.)
- Marking: Device Code, See Page 3
- Mounting Position: Any
- **Lead Free: For RoHS / Lead Free Version, Add “-LF” Suffix to Part Number, See Page 4**



| SOT-23               |       |       |
|----------------------|-------|-------|
| Dim                  | Min   | Max   |
| A                    | 0.37  | 0.51  |
| B                    | 1.19  | 1.40  |
| C                    | 2.10  | 2.50  |
| D                    | 0.89  | 1.05  |
| E                    | 0.45  | 0.61  |
| G                    | 1.78  | 2.05  |
| H                    | 2.65  | 3.05  |
| J                    | 0.013 | 0.15  |
| K                    | 0.89  | 1.10  |
| L                    | 0.45  | 0.61  |
| M                    | 0.076 | 0.178 |
| All Dimensions in mm |       |       |



### Maximum Ratings @T<sub>A</sub>=25°C unless otherwise specified

| Characteristic                                                                         | Symbol                                                 | Value       | Unit |
|----------------------------------------------------------------------------------------|--------------------------------------------------------|-------------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 200         | V    |
| Forward Continuous Current                                                             | I <sub>F</sub>                                         | 200         | mA   |
| Non-Repetitive Peak Forward Surge Current @ t = 1.0μs<br>@ t = 1.0s                    | I <sub>FSM</sub>                                       | 2.0<br>1.0  | A    |
| Operating and Storage Temperature Range                                                | T <sub>J</sub> , T <sub>STG</sub>                      | -55 to +150 | °C   |

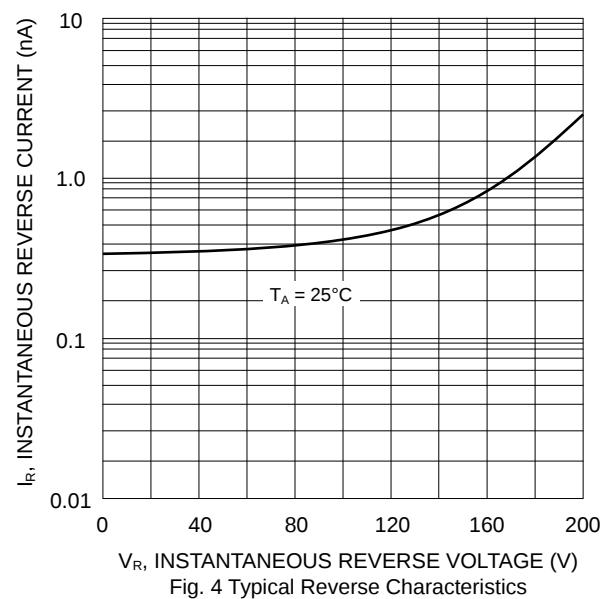
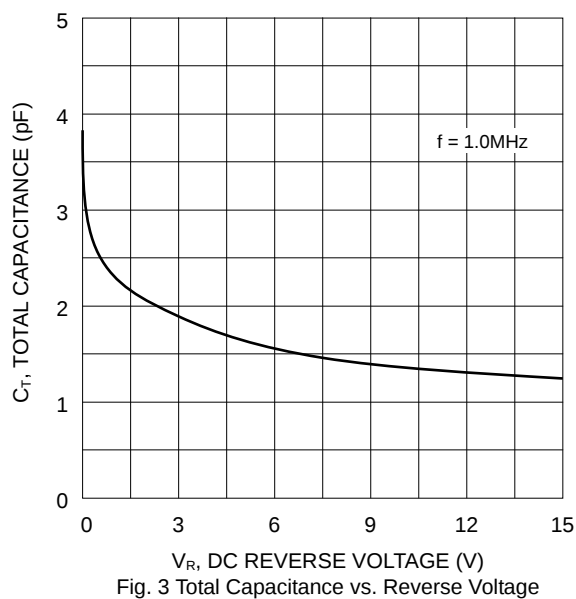
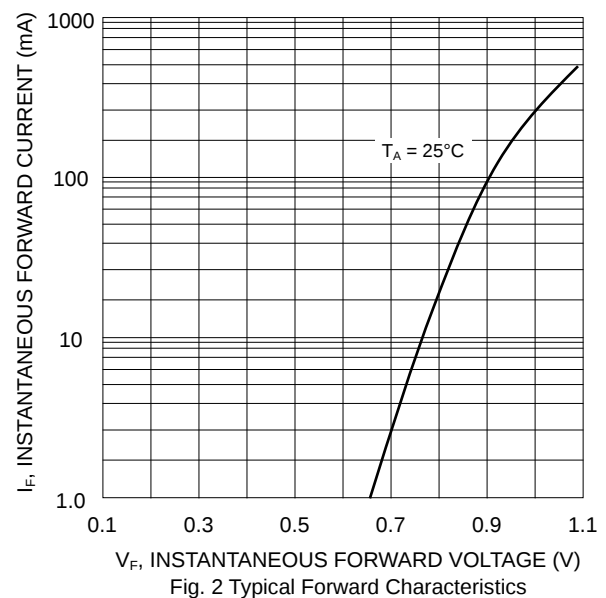
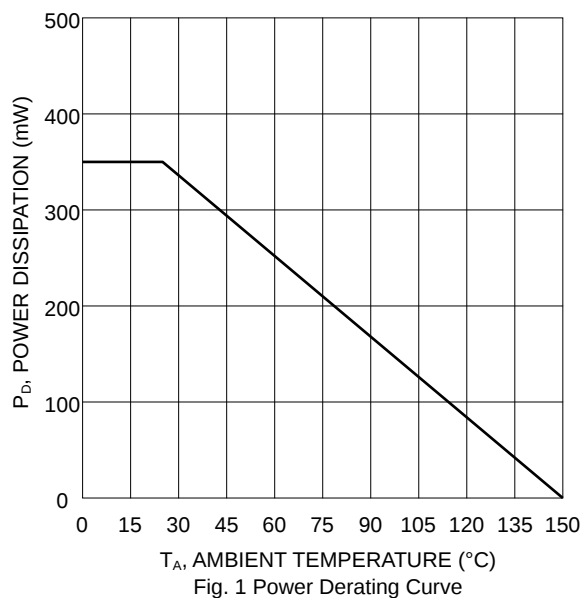
### Thermal Characteristics

| Characteristic                                   | Symbol           | Value | Unit |
|--------------------------------------------------|------------------|-------|------|
| Power Dissipation (Note 1)                       | P <sub>D</sub>   | 350   | mW   |
| Thermal Resistance, Junction to Ambient (Note 1) | R <sub>θJA</sub> | 357   | °C/W |

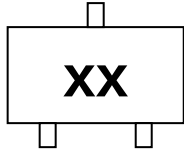
Note: 1. Mounted on FR-4 PC board with minimum recommended pad layout.

## Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

| Characteristic                                                                                                                   | Symbol            | Min. | Typ.                         | Max.                         | Unit |
|----------------------------------------------------------------------------------------------------------------------------------|-------------------|------|------------------------------|------------------------------|------|
| Reverse Breakdown Voltage @ I <sub>R</sub> = 5.0μA                                                                               | V <sub>(BR)</sub> | 200  |                              |                              | V    |
| Forward Voltage Drop @ I <sub>F</sub> = 1.0mA<br>@ I <sub>F</sub> = 10mA<br>@ I <sub>F</sub> = 100mA<br>@ I <sub>F</sub> = 200mA | V <sub>FM</sub>   |      | 0.62<br>0.72<br>0.83<br>0.87 | 0.72<br>0.83<br>0.93<br>1.10 | V    |
| Peak Reverse Leakage Current @ V <sub>R</sub> = 125V<br>@ V <sub>R</sub> = 180V                                                  | I <sub>RM</sub>   |      |                              | 1.0<br>10                    | nA   |
| Diode Capacitance (V <sub>R</sub> = 0V, f = 1.0MHz)                                                                              | C <sub>D</sub>    |      |                              | 4.0                          | pF   |



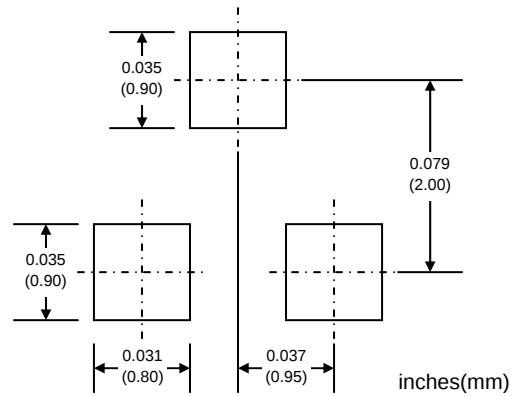
## MARKING INFORMATION



xx = Device Code, See Table Below

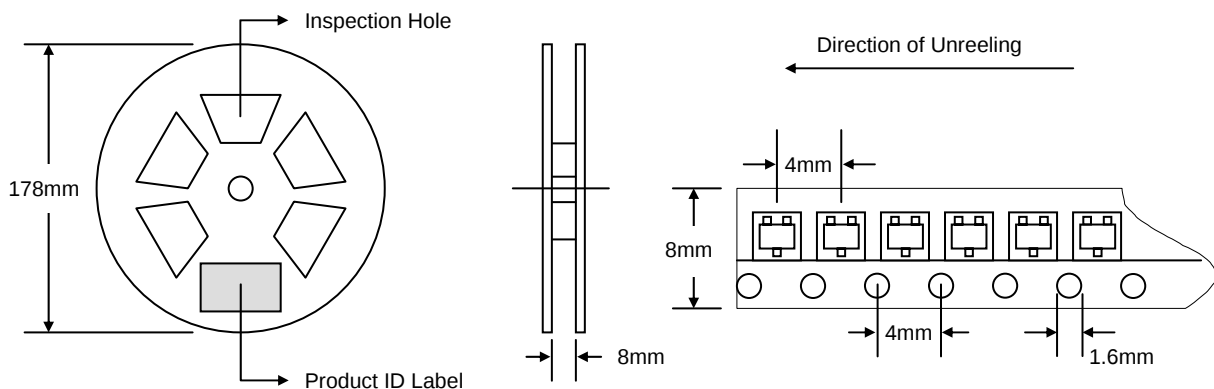
| MMBD1501A | MMBD1503A | MMBD1504A | MMBD1505A |
|-----------|-----------|-----------|-----------|
| A11       | A13       | A14       | A15       |

## RECOMMENDED FOOTPRINT



## PACKAGING INFORMATION

### TAPE & REEL



| Reel Diameter (mm) | Quantity (PCS) | Inner Box Size L x W x H (mm) | Quantity (PCS) | Carton Size L x W x H (mm) | Quantity (PCS) | Approx. Gross Weight (KG) |
|--------------------|----------------|-------------------------------|----------------|----------------------------|----------------|---------------------------|
| 178                | 3,000          | 187 x 187 x 65                | 15,000         | 390 x 240 x 420            | 150,000        | 10.0                      |

**Note:** 1. Anti-static plastic reel, white, water clear or blue color. Inspection hole might be varied in different alignment.  
2. Components are packed in accordance with EIA standard 481-1 and 481-2.

## ORDERING INFORMATION

| Product No.  | Package Type | Shipping Quantity |
|--------------|--------------|-------------------|
| MMBD1501A-T1 | SOT-23       | 3000/Tape & Reel  |
| MMBD1503A-T1 | SOT-23       | 3000/Tape & Reel  |
| MMBD1504A-T1 | SOT-23       | 3000/Tape & Reel  |
| MMBD1505A-T1 | SOT-23       | 3000/Tape & Reel  |

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, MMBD1501A-T1-LF.**

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**WARNING:** DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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**Email:** sales@wontop.com

**Internet:** <http://www.wontop.com>

*We power your everyday.*