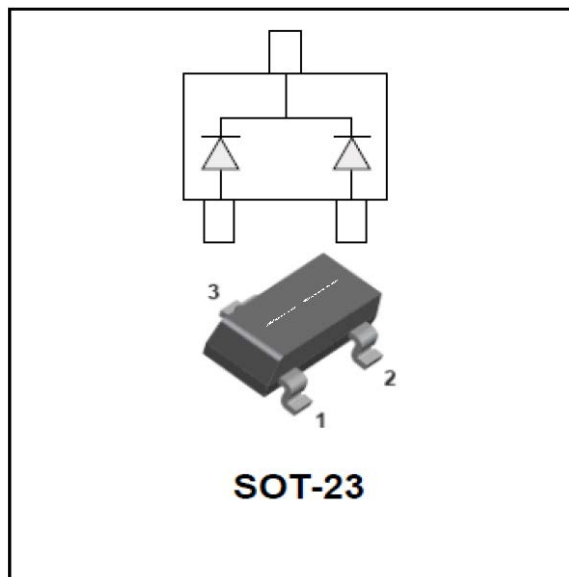


## MMBD4148CC

### Dual Switching Diode



#### Features

- Moisture sensitivity level 1
- Reverse voltage: 100V
- Average forward current : 200mA

#### Application

- Signal switching
- High frequency rectifier

#### Mechanical data

- **Package:** SOT-23
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102

#### ■ Maximum Ratings ( $T_a=25^{\circ}\text{C}$ Unless otherwise specified)

| Parameter                                                                   | Symbol    | Unit               | Value       |
|-----------------------------------------------------------------------------|-----------|--------------------|-------------|
| Device marking code                                                         |           |                    | D5          |
| Repetitive peak reverse voltage                                             | $V_{RRM}$ | V                  | 100         |
| Forward current, per leg                                                    | $I_F$     | mA                 | 200         |
| Non-repetitive Surge peak forward current @ $t=8.3\text{ms}$ half-sine wave | $I_{FSM}$ | A                  | 2           |
| Non-repetitive Surge peak forward current @ $t=1\text{ms}$ square wave      |           |                    | 2           |
| Power dissipation                                                           | $P_D$     | mW                 | 350         |
| Junction temperature                                                        | $T_J$     | $^{\circ}\text{C}$ | -55 to +150 |
| Storage temperature                                                         | $T_{STG}$ | $^{\circ}\text{C}$ | -55 to +150 |

## MMBD4148CC

### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| Parameter               | Symbol          | Unit | Conditions                                                                                       | Min | Typ | Max   |
|-------------------------|-----------------|------|--------------------------------------------------------------------------------------------------|-----|-----|-------|
| Reverse voltage         | V <sub>R</sub>  | V    | I <sub>R</sub> =100uA                                                                            | 100 |     |       |
| Forward voltage         | V <sub>F</sub>  | V    | I <sub>F</sub> =10mA                                                                             |     |     | 1     |
| Reverse leakage current | I <sub>R</sub>  | uA   | V <sub>R</sub> =20V                                                                              |     |     | 0.025 |
|                         |                 |      | V <sub>R</sub> =75V                                                                              |     |     | 5.0   |
| Junction capacitance    | C <sub>j</sub>  | pF   | V <sub>R</sub> =0V, f=1MHz                                                                       |     |     | 4     |
| Reverse recovery time   | T <sub>rr</sub> | ns   | I <sub>F</sub> =I <sub>R</sub> =10mA,<br>V <sub>R</sub> =6V, I <sub>rr</sub> =0.1*I <sub>R</sub> |     |     | 4     |

### ■ Thermal Characteristics

| Parameter                               | Symbol                           | Unit | Value |
|-----------------------------------------|----------------------------------|------|-------|
| Thermal resistance, junction-to-ambient | R <sub>θJ-A</sub> <sup>(1)</sup> | °C/W | 357   |
| Thermal resistance, junction-to-case    | R <sub>θJ-C</sub> <sup>(1)</sup> | °C/W | 286   |

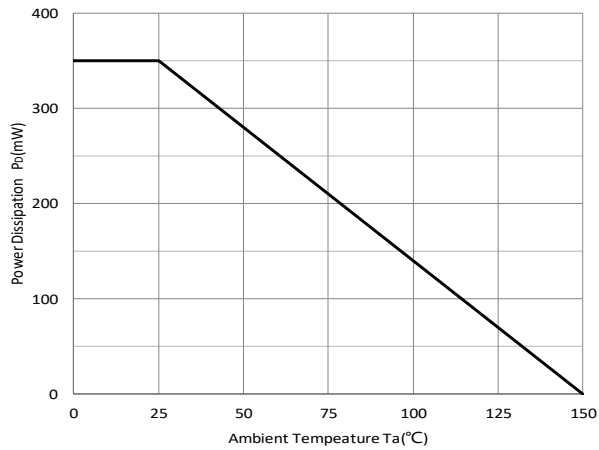
#### Note:

(1) Device mounted on PCB, single-sided copper, with standard footprint

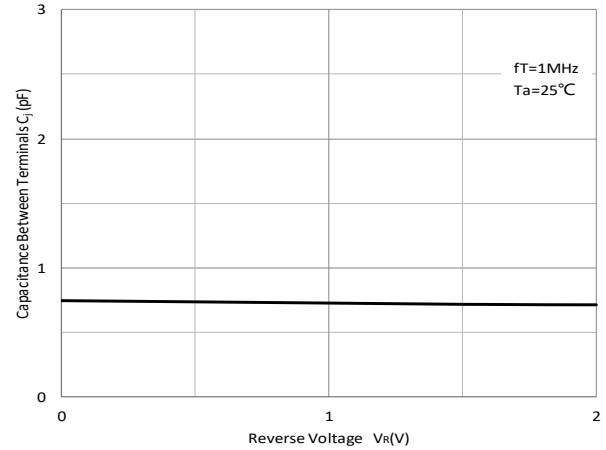
# MMBD4148CC

## ■ Characteristics

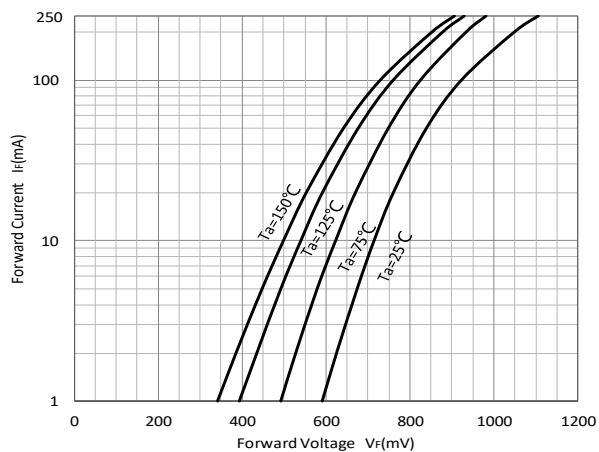
**Fig 1:  $P_D$ -Ta Curve**



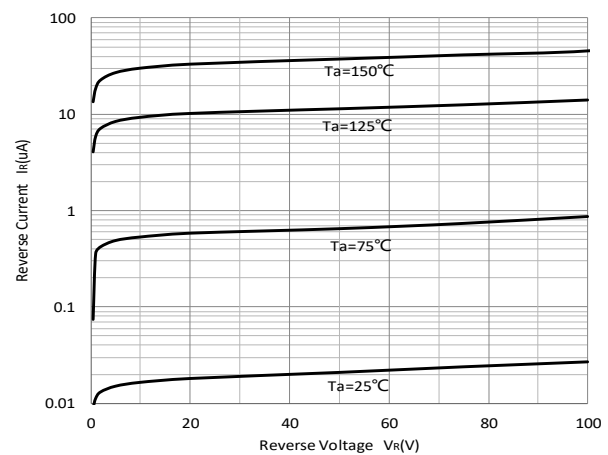
**Fig 2: Capacitance Capability**



**Fig 3: Typical Forward Characteristics**



**Fig 4: Typical Reverse Characteristics**

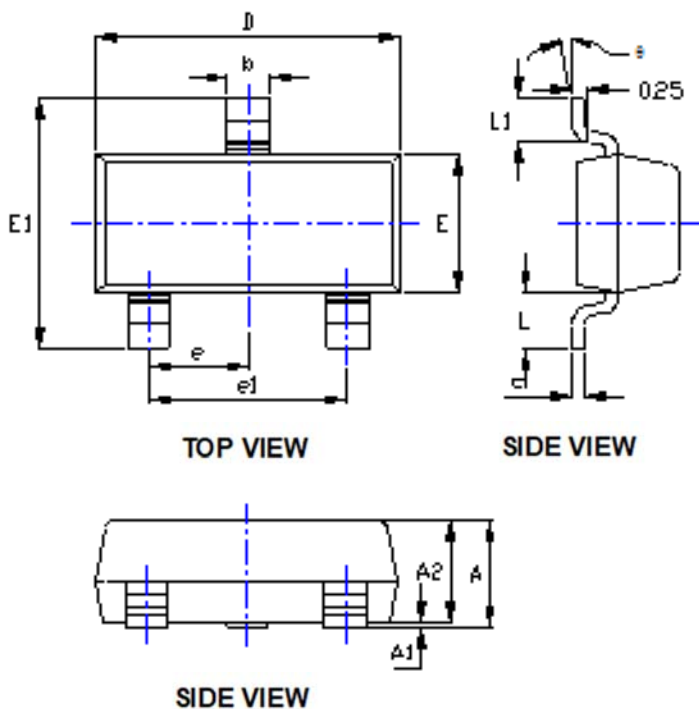


## MMBD4148CC

### ■ Ordering Information

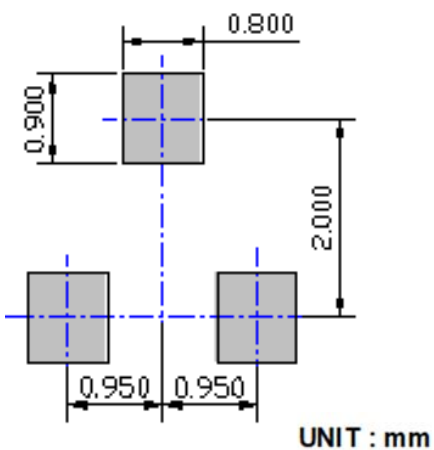
| Preferred P/N | Packing code | Unit weight(g)    | Minimum package(pcs) | Inner box quantity(pcs) | Outer carton quantity (pcs) | Delivery mode |
|---------------|--------------|-------------------|----------------------|-------------------------|-----------------------------|---------------|
| MMBD4148CC    | F2           | Approximate 0.008 | 3000                 | 30000                   | 120000                      | 7" reel       |
| MMBD4148CC    | F4           | Approximate 0.008 | 10000                | /                       | 210000                      | 13" reel      |

### ■ Outline Dimensions



| SYMBOL | DIMENSIONS |       |            |       |
|--------|------------|-------|------------|-------|
|        | INCHES     |       | Millimeter |       |
|        | MIN.       | MAX.  | MIN.       | MAX.  |
| A      | 0.035      | 0.045 | 0.900      | 1.150 |
| A1     | 0.000      | 0.004 | 0.000      | 0.100 |
| A2     | 0.035      | 0.041 | 0.900      | 1.050 |
| b      | 0.012      | 0.020 | 0.300      | 0.500 |
| c      | 0.004      | 0.008 | 0.100      | 0.200 |
| D      | 0.110      | 0.118 | 2.800      | 3.000 |
| E      | 0.047      | 0.055 | 1.200      | 1.400 |
| E1     | 0.089      | 0.100 | 2.250      | 2.550 |
| e      | 0.037TYP   |       | 0.950TYP   |       |
| e1     | 0.071      | 0.079 | 1.800      | 2.000 |
| L      | 0.022REF   |       | 0.550REF   |       |
| L1     | 0.012      | 0.020 | 0.300      | 0.500 |
| θ      | 0°         | 8°    | 0°         | 8°    |

### ■ Suggested Pad Layout



## MMBD4148CC

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