

## Small Signal Product

**350mW, SMD Switching Diode**
**FEATURES**

- Fast switching speed
- Surface mount device type
- Moisture sensitivity level 1
- Matte Tin (Sn) lead finish with Nickel (Ni) underplate
- Pb free version and RoHS compliant
- Packing code with suffix "G" means green compound (halogen-free)


**SOT-23**

**MECHANICAL DATA**

- Case: SOT-23 small outline plastic package
- Terminal: Matte tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- High temperature soldering guaranteed : 260°C/10s
- Weight: 8 ± 0.5 mg

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted) |                                   |             |      |
|--|-----------------------------------|-------------|------|
| PARAMETER  | SYMBOL                            | VALUE       | UNIT |
| Power Dissipation  | P <sub>D</sub>                    | 350         | mW   |
| Repetitive Peak Reverse Voltage  | V <sub>RRM</sub>                  | 350         | V    |
| Repetitive Peak Forward Current  | I <sub>FRM</sub>                  | 625         | mA   |
| Mean Forward Current   | I <sub>O</sub>                    | 225         | mA   |
| Non-Repetitive Peak Forward Surge Current  | I <sub>FSM</sub>                  | 4<br>1      | A    |
| Thermal Resistance (Junction to Ambient)   | R <sub>θJA</sub>                  | 357         | °C/W |
| Junction and Storage Temperature Range   | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150 | °C   |

| PARAMETER                 | SYMBOL  | MIN | MAX  | UNIT |
|---------------------------|---|-----|------|------|
| Reverse Breakdown Voltage | I <sub>R</sub> =100μA<br>V <sub>(BR)</sub>  | 350 | -    | V    |
| Forward Voltage           | I <sub>F</sub> =100mA<br>V <sub>F</sub>   | -   | 1.00 | V    |
|                           | I <sub>F</sub> =200mA   | -   | 1.25 |      |
| Reverse Leakage Current   | V <sub>R</sub> =240V<br>I <sub>R</sub>  | -   | 0.1  | μA   |
|                           | V <sub>R</sub> =240V, T <sub>J</sub> =150°C   | -   | 100  |      |
| Junction Capacitance      | V <sub>R</sub> =1V, f=1.0MHz<br>C <sub>J</sub>  | -   | 5    | pF   |
| Reverse Recovery Time     | I <sub>F</sub> =I <sub>R</sub> =30mA, R <sub>L</sub> =100Ω, I <sub>RR</sub> =0.1I <sub>R</sub><br>t <sub>rr</sub> | -   | 50   | ns   |

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RATINGS AND CHARACTERISTICS CURVES

( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 Typical Forward Characteristics

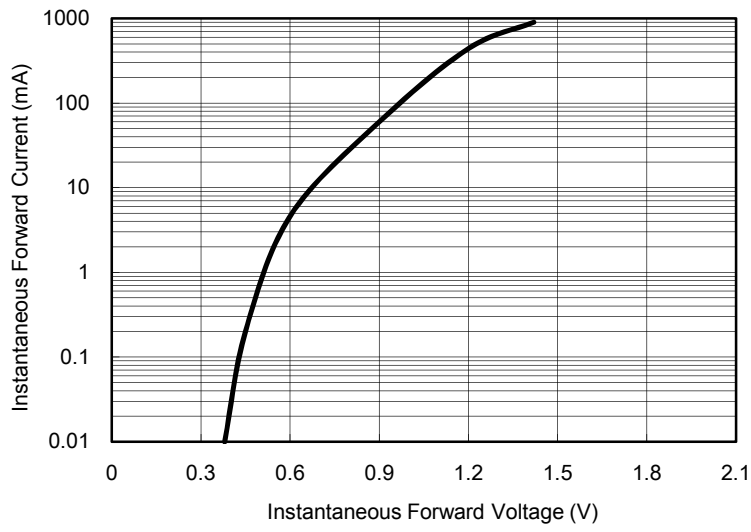


Fig. 2 Typical Reverse Characteristics

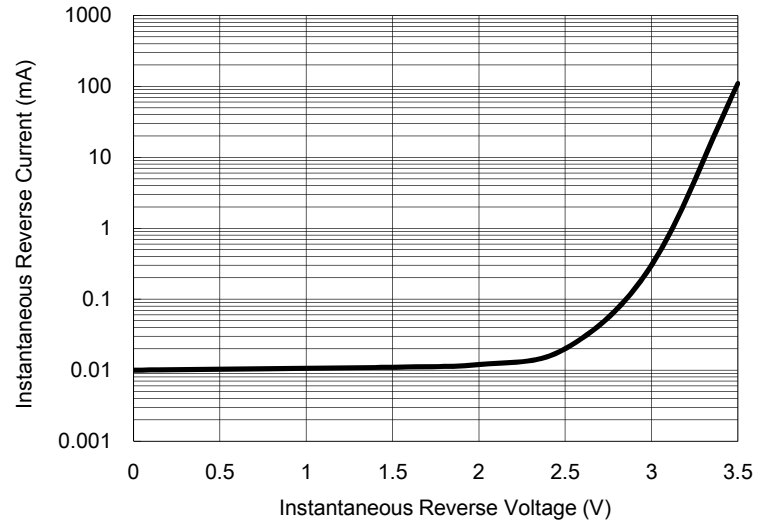


Fig. 3 Admissible Power Dissipation Curve

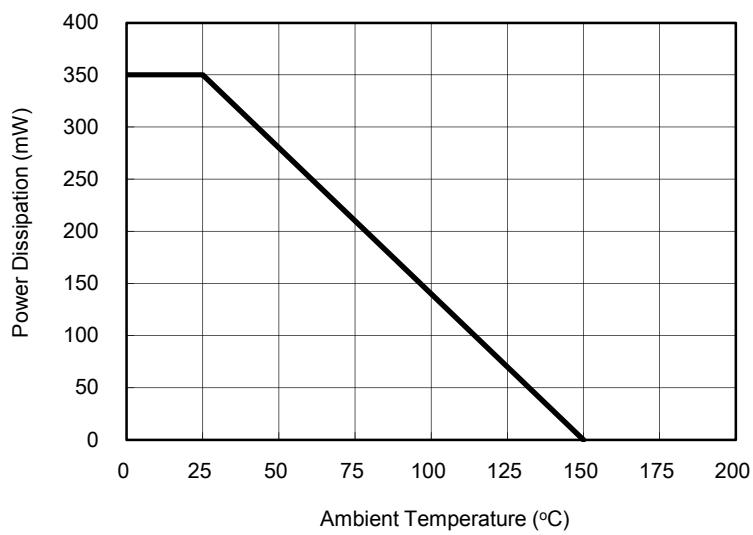
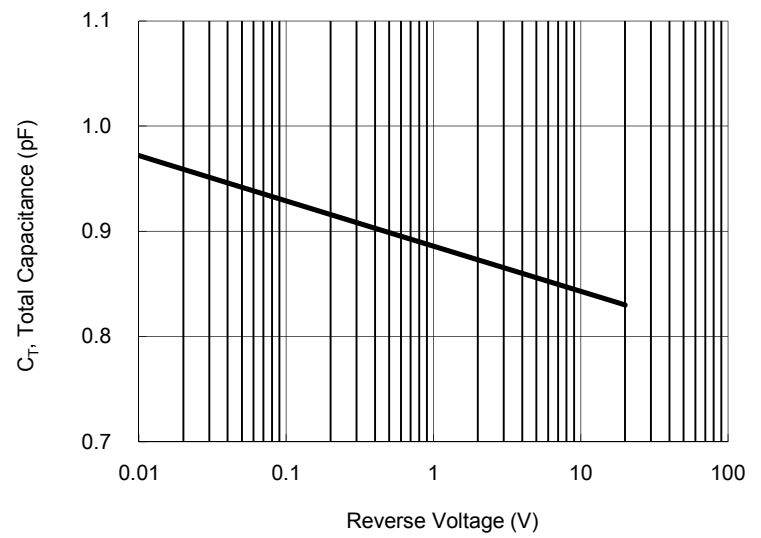


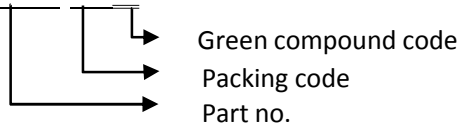
Fig. 4 Typical Capacitance VS. Reverse Voltage



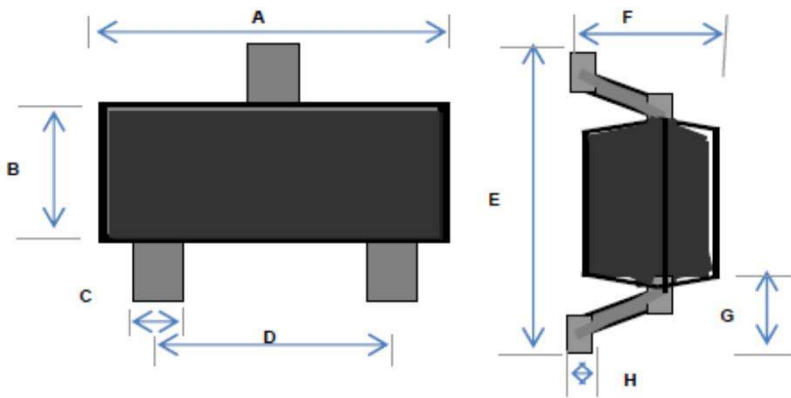
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ORDER INFORMATION (EXAMPLE)

MMBD3004 RFG

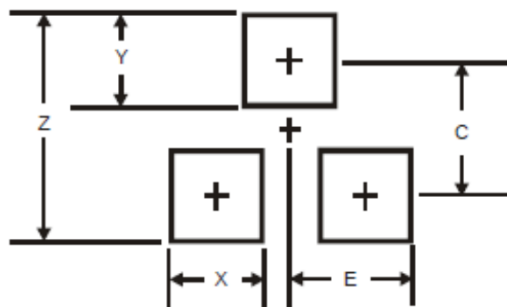


PACKAGE OUTLINE DIMENSIONS  
**SOT-23**



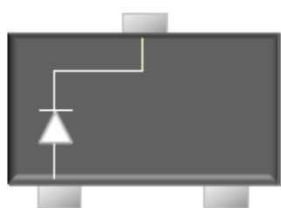
| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min       | Max  | Min         | Max   |
| A    | 2.70      | 3.10 | 0.106       | 0.122 |
| B    | 1.10      | 1.50 | 0.043       | 0.059 |
| C    | 0.30      | 0.51 | 0.012       | 0.020 |
| D    | 1.78      | 2.04 | 0.070       | 0.080 |
| E    | 2.10      | 2.64 | 0.083       | 0.104 |
| F    | 0.89      | 1.30 | 0.035       | 0.051 |
| G    | 0.55 REF  |      | 0.022 REF   |       |
| H    | 0.10 REF  |      | 0.004 REF   |       |

SUGGEST PAD LAYOUT

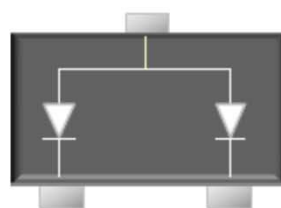


| DIM. | Unit (mm) | Unit (inch) |
|------|-----------|-------------|
|      | Typ.      | Typ.        |
| Z    | 2.8       | 0.110       |
| X    | 0.7       | 0.028       |
| Y    | 0.9       | 0.035       |
| C    | 1.9       | 0.075       |
| E    | 1.0       | 0.039       |

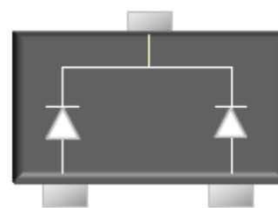
PIN CONFIGURATION



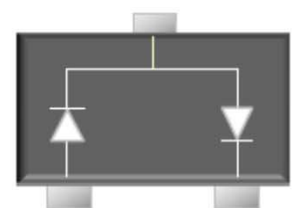
**MMBD3004**



**MMBD3004CA**



**MMBD3004CC**



**MMBD3004SE**

MARKING

| Part No.   | Marking |
|------------|---------|
| MMBD3004   | HC      |
| MMBD3004CA | RA      |
| MMBD3004CC | PZ      |
| MMBD3004SE | PY      |

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