



### SURFACE MOUNT HIGH VOLTAGE SWITCHING DIODE ARRAY

This device features two series-connected diode pairs which can be connected to form a full-wave bridge. It is housed in a very small SOT-23 6L surface mount package.

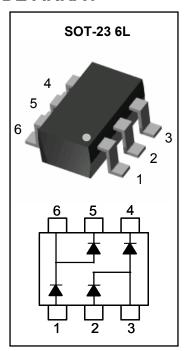
#### **FEATURES**

- High Reverse Voltage Rating
- Fast Switching Speed
- Low Capacitance
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

#### **APPLICATIONS**

- Power Supplies
- High Speed Rectification

Marking Code: B34



## **MAXIMUM RATINGS (Per Diode)** $T_J = 25^{\circ}C$ Unless otherwise noted

| Rating   | Symbol           | Value       | Units |
|--|------------------|-------------|-------|
| Repetitive Peak Reverse Voltage                            | $V_{RRM}$        | 350         | V     |
| Continuous Reverse Voltage                                 | $V_R$            | 300         | V     |
| RMS Reverse Voltage  | $V_{RMS}$        | 212         | V     |
| Continuous Forward Current (Note 1)                        | I <sub>F</sub>   | 225         | mA    |
| Peak Repetitive Forward Current (Note 1)                   | I <sub>FRM</sub> | 625         | mA    |
| Non-repetitive Peak Forward Current, t = 1sec, Square Wave | I <sub>FSM</sub> | 1.0         | Α     |
| Total Power Dissipation (Note 1)                           | P <sub>tot</sub> | 350         | mW    |
| Operating Junction Temperature Range                       | $T_J$            | -55 to +150 | °C    |
| Storage Temperature Range                                  | T <sub>stg</sub> | -55 to +150 | °C    |

#### THERMAL CHARACTERISTICS

| Characteristic                                   | Symbol | Value | Units |
|--|--------|-------|-------|
| Thermal Resistance, Junction to Ambient (Note 1) | R thja | 357   | °C/W  |

Note 1. FR-5 Board 1.0 x 0.75 x 0.062 in.





## **ELECTRICAL CHARACTERISTICS (Per Diode)** Tj = 25°C Unless otherwise noted

| Parameter                        | Symbol          | Conditions  | Min | Тур  | Max  | Units |  |
|----------------------------------|-----------------|---|-----|------|------|-------|--|
| Breakdown Voltage (Note 1)       | V <sub>BR</sub> | I <sub>BR</sub> = 150uA   | 350 | -    | -    | V     |  |
| Forward Voltage (Note 1)         | V <sub>F</sub>  | I <sub>F</sub> = 20mA   | -   | 0.82 | 0.87 |       |  |
|                                  |                 | I <sub>F</sub> = 100mA  | -   | 0.95 | 1.0  | V     |  |
|                                  |                 | I <sub>F</sub> = 200mA  | -   | 1.0  | 1.25 |       |  |
| Reverse Leakage Current (Note 1) |                 | V <sub>R</sub> = 240V   | -   | 0.02 | 0.1  |       |  |
| Reverse Leakage Current (Note 1) | I <sub>R</sub>  | $V_{R} = 240V T_{J} = 150^{\circ}C$                               | -   | 0.5  | 100  | uA    |  |
| Total Capacitance                | C <sub>T</sub>  | 0Vdc Bias, f =1 MHz   | -   | 1.7  | 5.0  | pF    |  |
| Reverse Recovery Time            | trr             | $I_F = I_R = 30$ mA, $I_{RR} = 3$ mA<br>R <sub>L</sub> = 100 ohms | -   | -    | 50   | ns    |  |

Note 1. Short duration pulse test to avoid self-heating effect

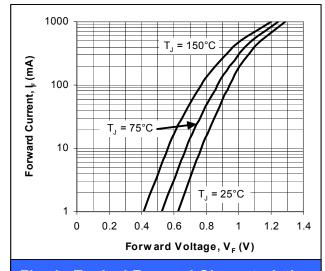


Fig. 1. Typical Forward Characteristics

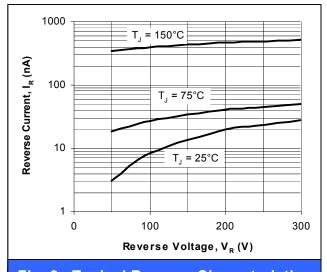
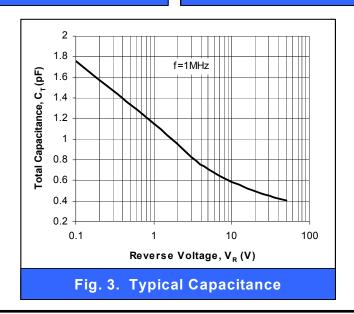


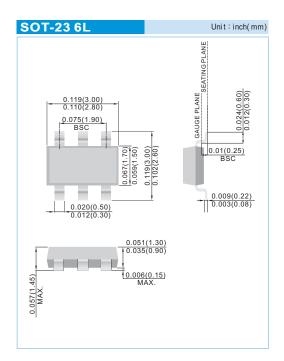
Fig. 2. Typical Reverse Characteristics

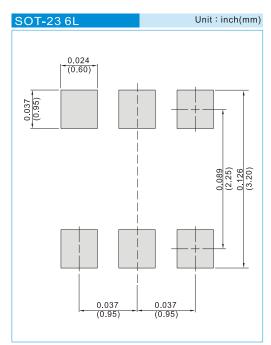




# MMBD3004BRM

## PACKAGE LAYOUT AND SUGGESTED PAD DIMENSIONS





#### **ORDERING INFORMATION**

MMBD3004BRM T/R7 - 7" reel, 3K units per reel. Pin 1 towards tape sprocket holes

MMBD3004BRM T/R7R - 7" reel, 3K units per reel. Pin 1 away from tape sprocket holes

MMBD3004BRM T/R13 -13" reel, 10K units per reel. Pin 1 towards tape sprocket holes

MMBD3004BRM T/R13R - 13" reel, 10K units per reel. Pin 1 away from tape sprocket holes





# MMBD3004BRM

# Part No\_packing code\_Version

MMBD3004BRM\_R1\_00001 MMBD3004BRM\_R2\_00001 MMBD3004BRM\_S1\_00001 MMBD3004BRM\_S2\_00001

# For example : RB500V-40\_R2\_00001 Part No. Serial number Version code means HF Packing size code means 13" Packing type means T/R

| Packing Code XX                      |                      |                                   | Version Code XXXXX   |            |                      |                                       |
|--------------------------------------|----------------------|-----------------------------------|----------------------|------------|----------------------|---------------------------------------|
| Packing type                         | 1 <sup>st</sup> Code | Packing size code                 | 2 <sup>nd</sup> Code | HF or RoHS | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> Code |
| Tape and Ammunition Box (T/B)        | Α                    | N/A                               | 0                    | HF         | 0                    | serial number                         |
| Tape and Reel<br>(T/R)               | R                    | 7"                                | 1                    | RoHS       | 1                    | serial number                         |
| Bulk Packing<br>(B/P)                | В                    | 13"                               | 2                    |            |                      |                                       |
| Tube Packing<br>(T/P)                | Т                    | 26mm                              | X                    |            |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | s                    | 52mm                              | Y                    |            |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | L                    | PANASERT T/B CATHODE UP<br>(PBCU) | U                    |            |                      |                                       |
| FORMING                              | F                    | PANASERT T/B CATHODE DOWN (PBCD)  | D                    |            |                      |                                       |

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