



# MB24~MB220

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

**VOLTAGE** 40 to 200 Volt **CURRENT** 2 Ampere

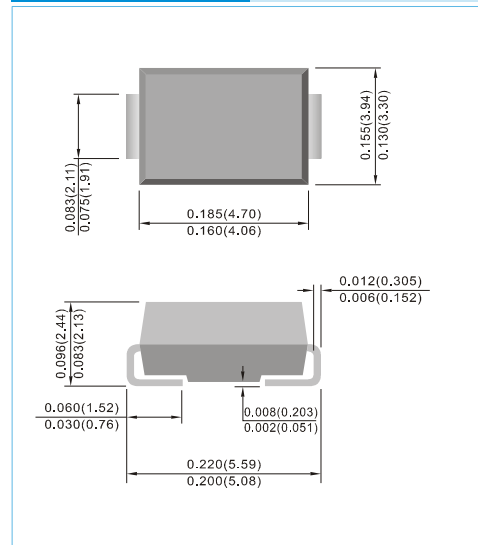
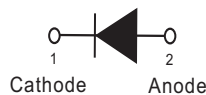
**SMB / DO-214AA** Unit : inch(mm)

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications in order to optimize board space
- Low power loss, high efficiency
- High surge capacity
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

- Case: JEDEC DO-214AA molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard packaging: 12mm tape (EIA-481)
- Weight: 0.0032 ounces, 0.092 grams



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load.

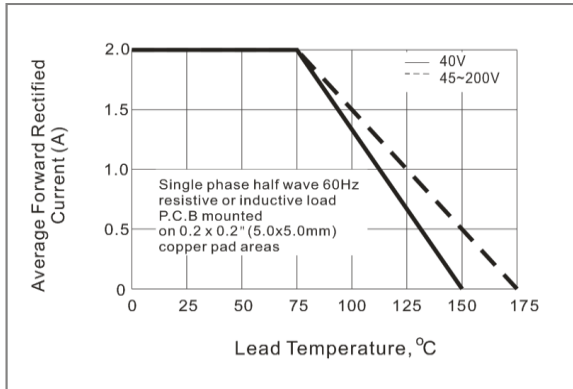
| PARAMETER   | SYMBOL          | MB24        | MB24A | MB25 | MB26 | MB28        | MB29 | MB210 | MB215 | MB220 | UNITS            |                             |
|---|-----------------|-------------|-------|------|------|-------------|------|-------|-------|-------|------------------|-----------------------------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$       | 40          | 45    | 50   | 60   | 80          | 90   | 100   | 150   | 200   | V                |                             |
| Maximum RMS Voltage   | $V_{RMS}$       | 28          | 31.5  | 35   | 42   | 56          | 63   | 70    | 105   | 140   | V                |                             |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 40          | 45    | 50   | 60   | 80          | 90   | 100   | 150   | 200   | V                |                             |
| Maximum Average Forward Current   | $I_{F(AV)}$     | 2           |       |      |      |             |      |       |       |       | A                |                             |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$       | 50          |       |      |      |             |      |       |       |       | A                |                             |
| Maximum Forward Voltage at 2A (Note 1)  | $V_F$           | 0.7         |       | 0.74 |      | 0.8         |      | 0.9   |       |       | V                |                             |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=25^\circ\text{C}$      | $I_R$           | 0.05        |       |      |      |             |      |       |       |       | mA               |                             |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=100^\circ\text{C}$     | $I_R$           | 20          |       |      |      | 1           |      |       |       |       | mA               |                             |
| Typical Thermal Resistance (Note 2)   | $R_{\theta JL}$ | 12          |       |      |      |             |      |       |       |       |                  | $^\circ\text{C} / \text{W}$ |
| Operating Junction and Storage Temperature Range                                    | $T_J, T_{STG}$  | -55 to +150 |       |      |      | -55 to +175 |      |       |       |       | $^\circ\text{C}$ |                             |

**NOTES :**

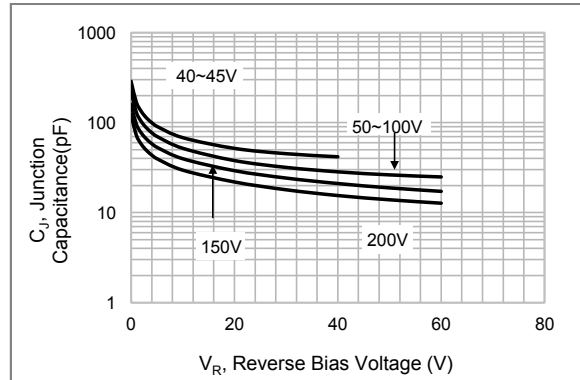
1. Pulse Test with PW = 300µsec, 1% Duty Cycle.
2. Mounted on P.C. Board with 8mm<sup>2</sup> (0.013mm thick) copper pad areas.



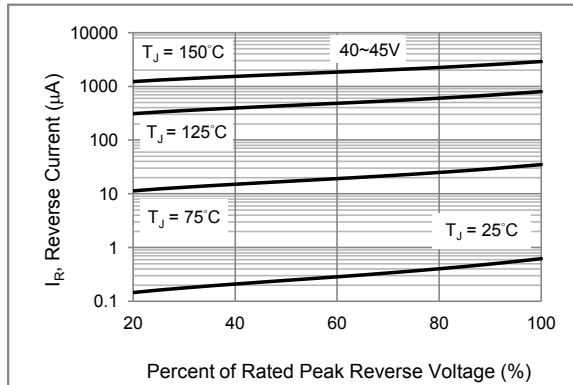
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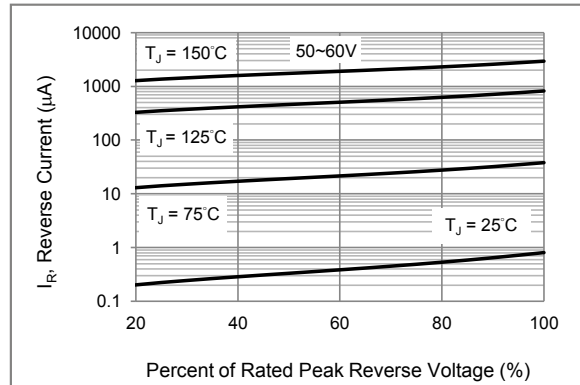
**Fig.1 Forward Current Derating Curve**



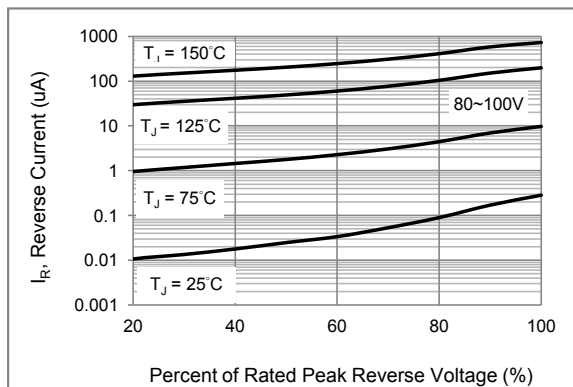
**Fig.2 Typical Junction Capacitance**



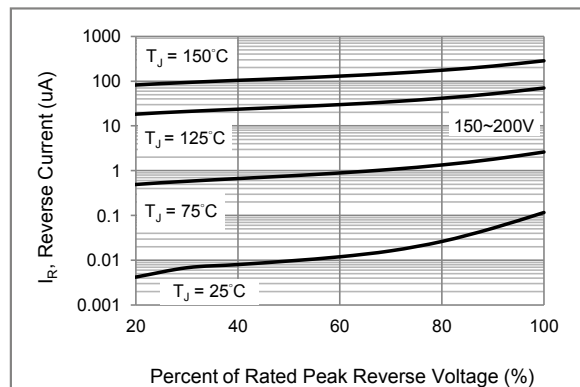
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Reverse Characteristics**



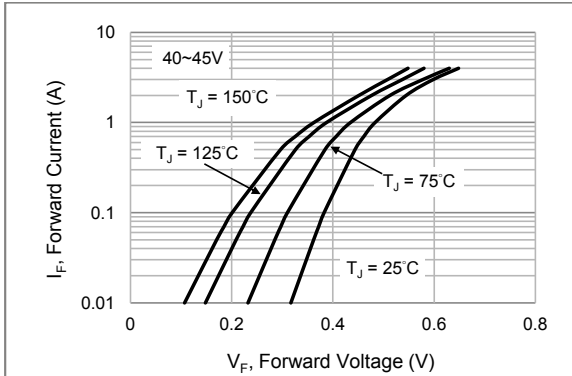
**Fig.5 Typical Reverse Characteristics**



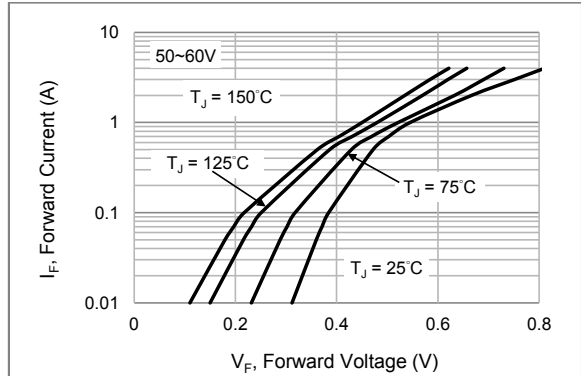
**Fig.6 Typical Reverse Characteristics**



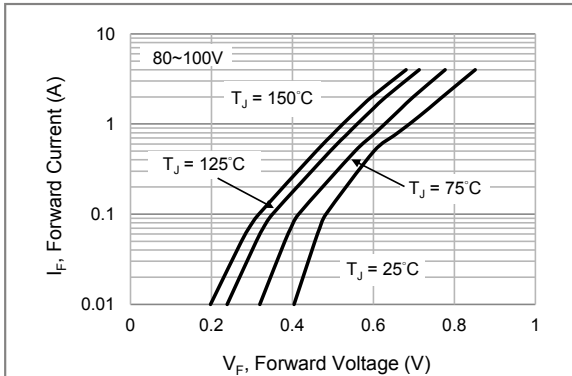
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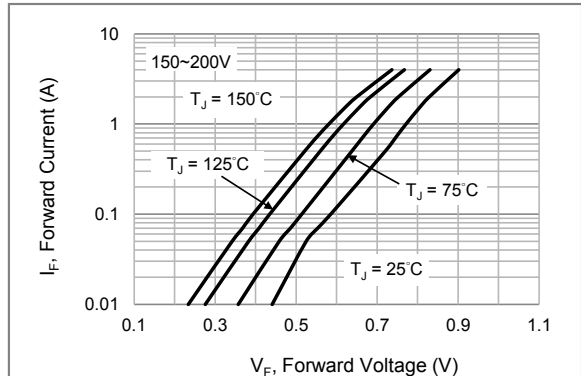
**Fig.7 Typical Forward Characteristics**



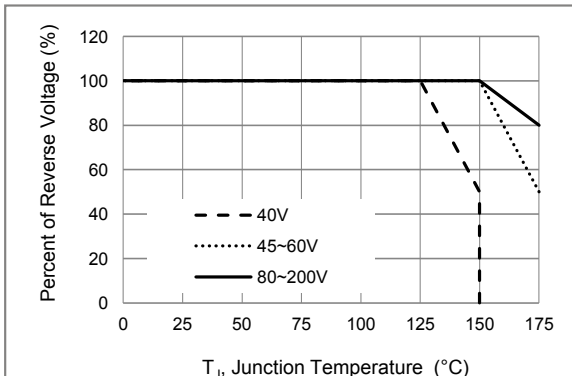
**Fig.8 Typical Forward Characteristics**



**Fig.9 Typical Forward Characteristics**



**Fig.10 Typical Forward Characteristics**



**Fig.11 Operating Temperature Derating**

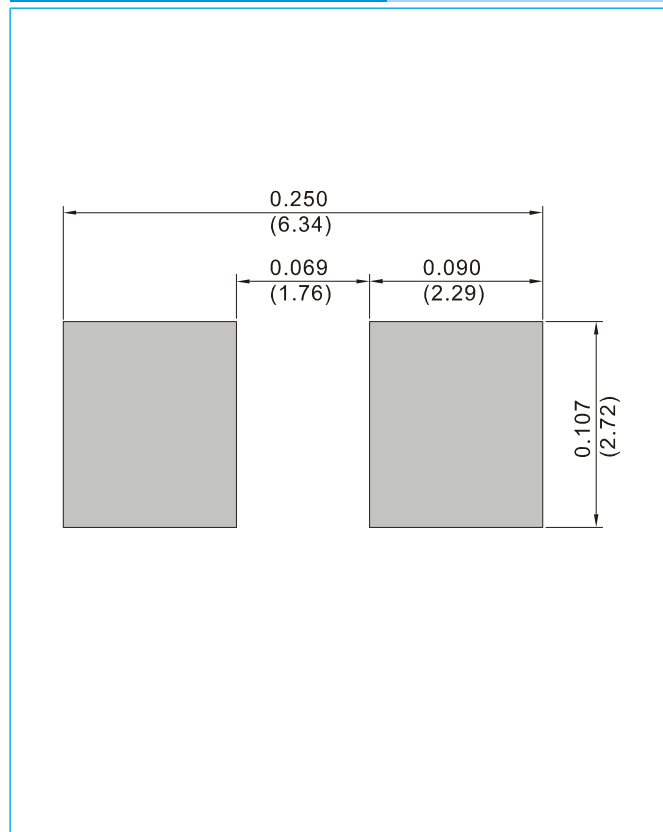


## MB24~MB220

### MOUNTING PAD LAYOUT

SMB / DO-214AA

Unit : inch(mm)



### ORDER INFORMATION

- Packing information
  - T/R - 3K per 13" plastic Reel
  - T/R - 0.8K per 7" plastic Reel



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### Part No\_packing code\_Version

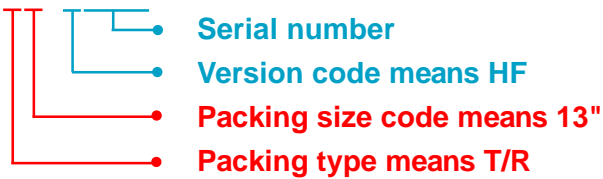
MB24\_R1\_00001

MB24\_R2\_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 <b>XX</b>               |                      |                                  |                      | Version Code <b>XXXXX</b> |                      |                                       |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| 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)        | A                    | N/A                              | 0                    | HF                        | 0                    | serial number                         |
| Tape and Reel (T/R)                  | R                    | 7"                               | 1                    | RoHS                      | 1                    | serial number                         |
| Bulk Packing (B/P)                   | B                    | 13"                              | 2                    |                           |                      |                                       |
| Tube Packing (T/P)                   | T                    | 26mm                             | X                    |                           |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | S                    | 52mm                             | Y                    |                           |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | L                    | PANASERT T/B CATHODE UP (PBCU)   | U                    |                           |                      |                                       |
| FORMING                              | F                    | PANASERT T/B CATHODE DOWN (PBCD) | D                    |                           |                      |                                       |



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