



# MB34~MB320

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

**VOLTAGE** 40 to 200 Volt **CURRENT** 3 Ampere

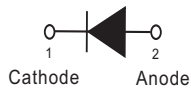
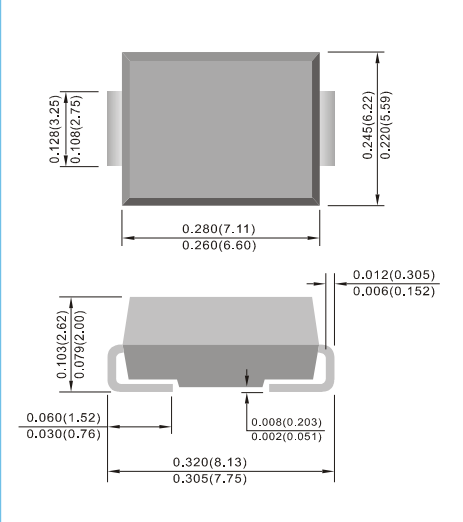
**SMC / DO-214AB** Unit : inch(mm)

### 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-214AB molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard packaging: 16mm tape (EIA-481)
- Weight: 0.0082 ounces, 0.2325 grams



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

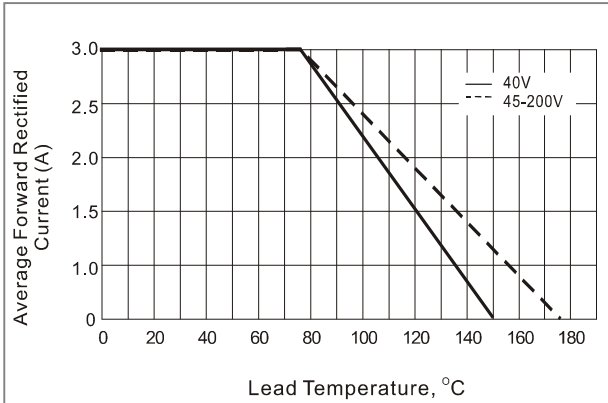
| PARAMETER   | SYMBOL          | MB34        | MB34A | MB35 | MB36 | MB38        | MB39 | MB310 | MB315 | MB320 | UNITS  |
|---|-----------------|-------------|-------|------|------|-------------|------|-------|-------|-------|--------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$       | 40          | 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 (See figure 1)                                      | $I_{F(AV)}$     | 3           |       |      |      |             |      |       |       |       | A      |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$       | 100         |       |      |      |             |      |       |       |       | A      |
| Maximum Forward Voltage at 3A (Note 1)  | $V_F$           | 0.7         |       | 0.74 |      | 0.8         |      | 0.9   |       |       | V      |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=25^{\circ}C$           | $I_R$           | 0.05        |       |      |      |             |      |       |       |       | mA     |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=100^{\circ}C$          | $I_R$           | 2           |       |      |      | 1           |      |       |       |       | mA     |
| Typical Junction Capacitance ( $V_R=4V, 1MHz$ )                                     | $C_J$           | 140         |       |      |      |             |      |       |       |       | pF     |
| Typical Thermal Resistance (Note 2)   | $R_{\theta JL}$ | 15          |       |      |      |             |      |       |       |       | °C / W |
| (Note 3)  | $R_{\theta JA}$ | 110         |       |      |      |             |      |       |       |       |        |
| Operating Junction and Storage Temperature Range                                    | $T_J, T_{STG}$  | -55 to +150 |       |      |      | -65 to +175 |      |       |       |       | °C     |

**NOTES :**

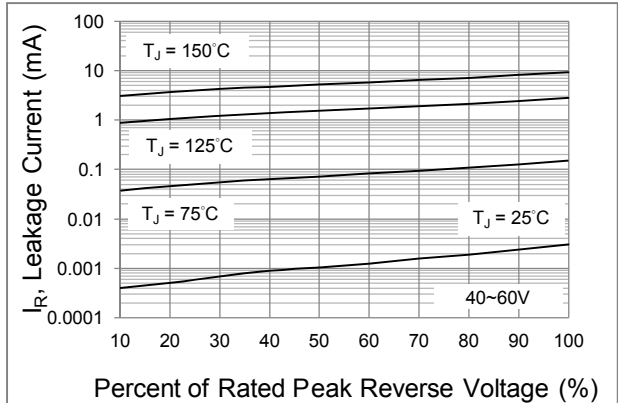
1. Pulse Test with PW =300µsec, 1% Duty Cycle.
2. Mounted on a FR4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area.
3. Mounted on a FR4 PCB, single-sided copper, mini pad.



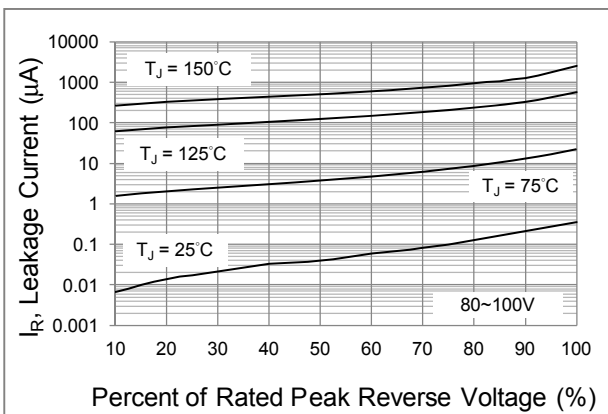
**MB34~MB320**



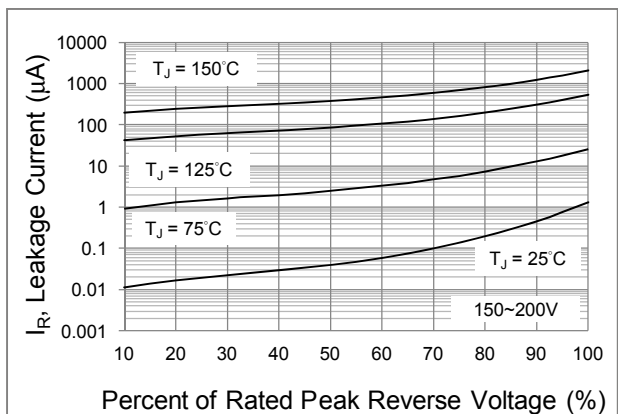
**Fig.1 Forward Current Derating Curve**



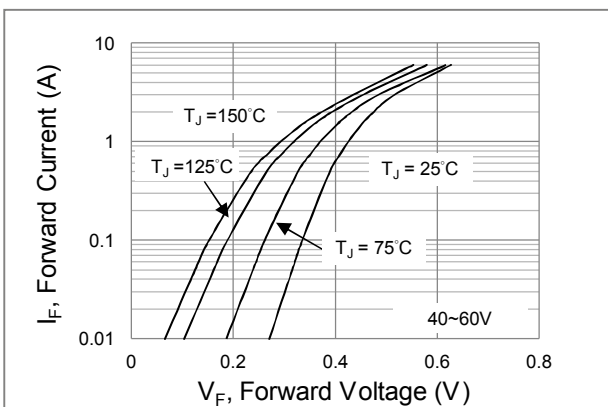
**Fig.2 Typical Reverse Characteristics**



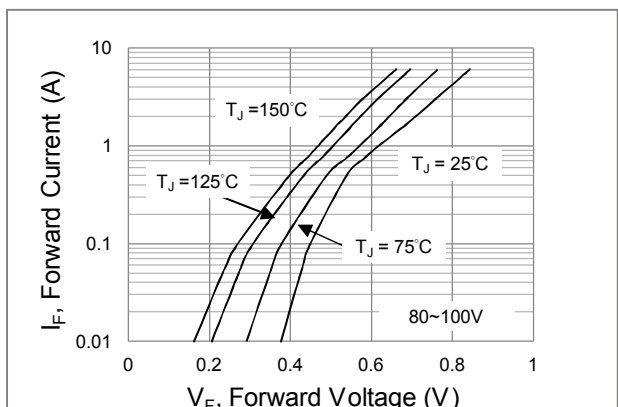
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Reverse Characteristics**



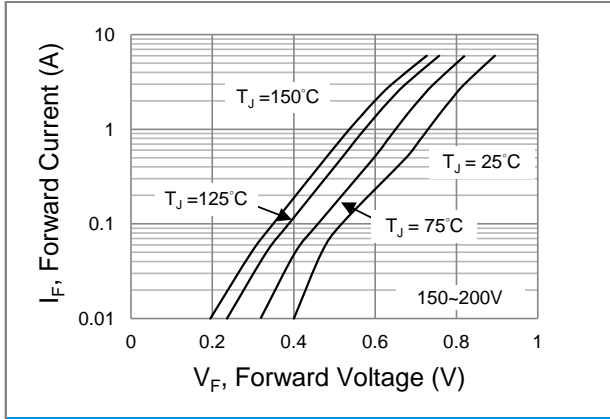
**Fig.5 Typical Forward Characteristics**



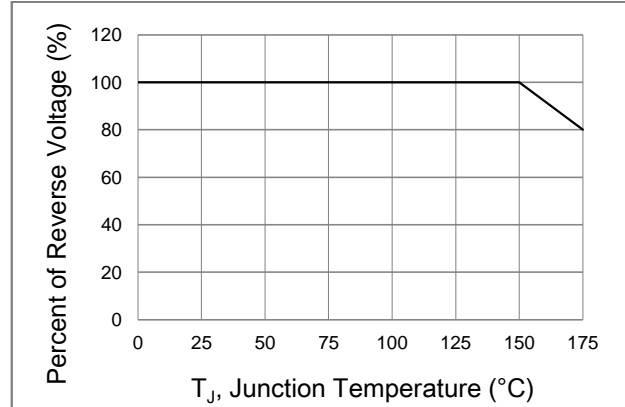
**Fig.6 Typical Forward Characteristics**



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**Fig.7 Typical Forward Characteristics**



**Fig.8 Operating Temperature Derating Curve**

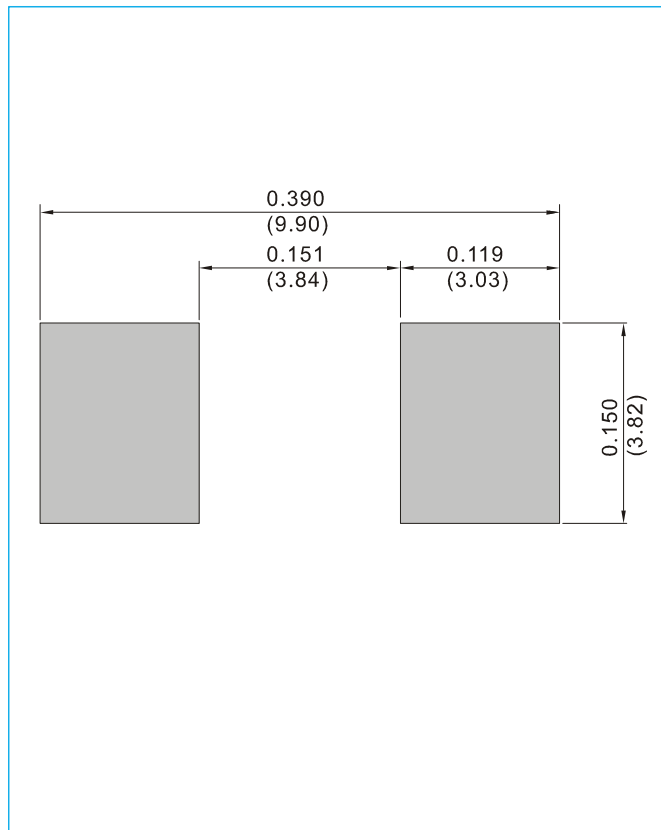


## MB34~MB320

### MOUNTING PAD LAYOUT

SMC / DO-214AB

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

MB34\_R1\_00001

MB34\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



| 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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