



MB54~MB520

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

VOLTAGE 40 to 200 Volt **CURRENT** 5 Ampere

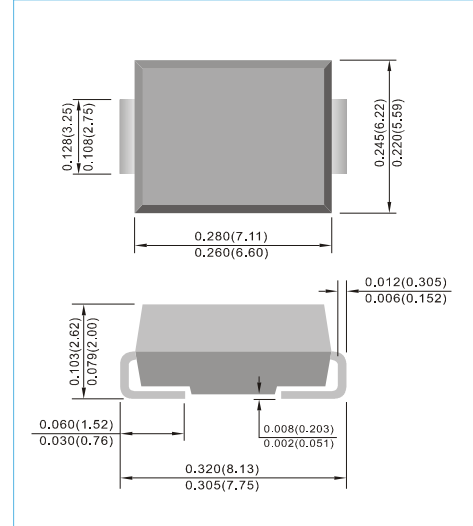
SMC / DO-214AB Unit : inch(mm)

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- 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
- Marking : Part number



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| PARAMETER | SYMBOL | MB54 | MB54A | MB55 | MB56 | MB58 | MB59 | MB510 | MB515 | MB520 | 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 |
| Average Rectified Output Current (See Figure 1) | $I_{F(AV)}$ | 5 | | | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 100 | | | | | | | | | A |
| Forward Voltage at 5A (Note 1) | V_F | 0.7 | | 0.74 | | 0.8 | | 0.9 | | | V |
| Peak Reverse Current at Rated DC Blocking Voltage $T_J=25^{\circ}C$ $T_J=100^{\circ}C$ | I_R | | | | | 0.05 | | 10 | | | mA |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ $R_{\theta JL}$ | | | | | 55 | | 17 | | | $^{\circ}C / W$ |
| Operating Junction and Storage Temperature Range | T_J, T_{STG} | -55 to +150 | | | | -65 to +175 | | | | | $^{\circ}C$ |

NOTES :

1. Pulse Test with PW =300µsec, 1% Duty Cycle.
2. Mounted on P.C. Board with 14mm² (0.013mm thick) copper pad areas.



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RATING AND CHARACTERISTIC CURVES

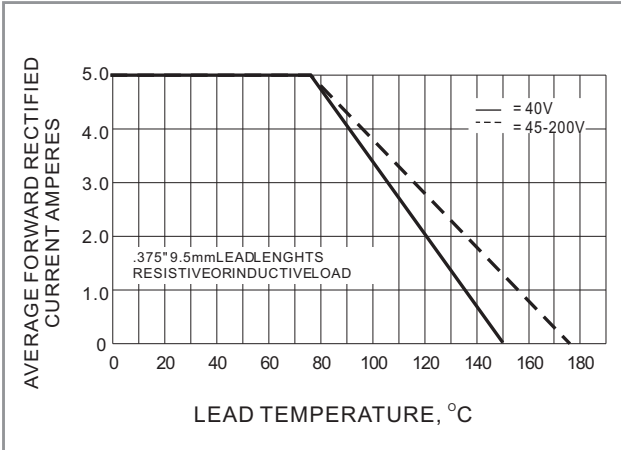


Fig.1 FORWARD CURRENT DERATING CURVE

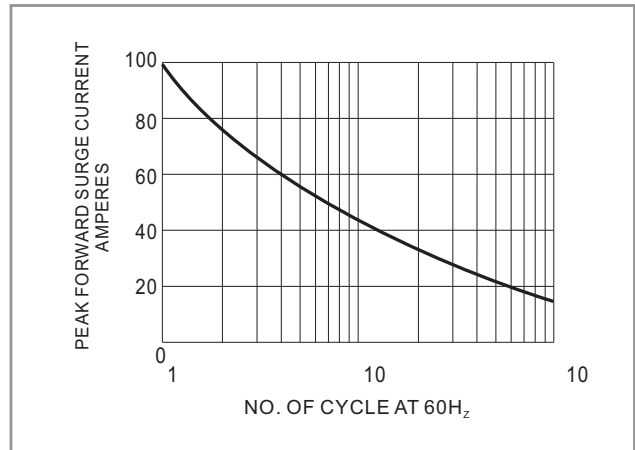


Fig.2 MAXIMUM NON-REPETITIVE SURGE CURRENT

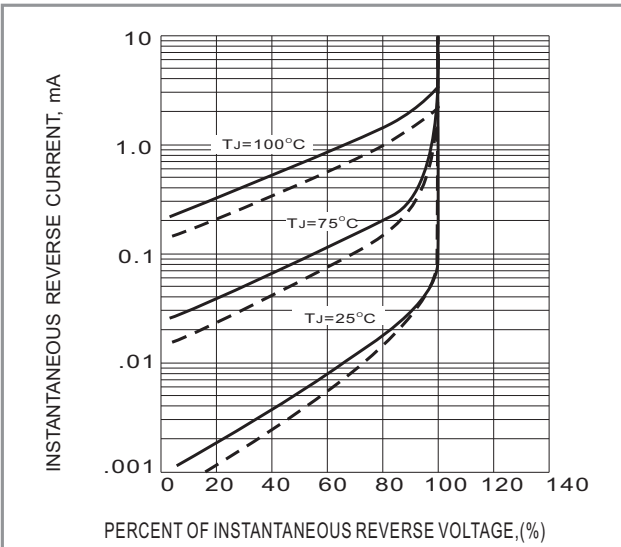


Fig.3 TYPICAL REVERSE CHARACTERISTIC

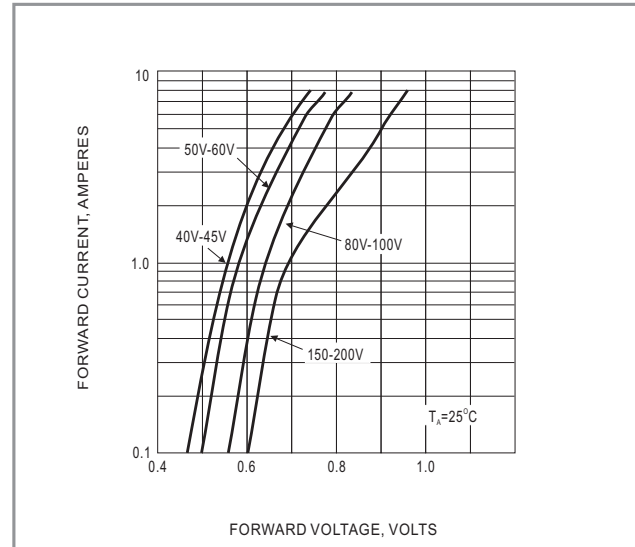


Fig.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

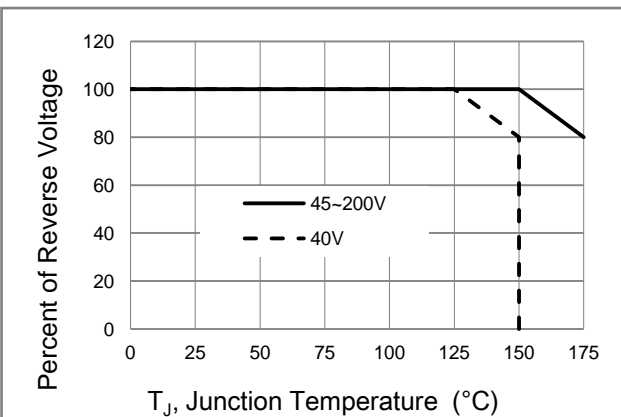


Fig.5 Operating Temperature Derating Curve

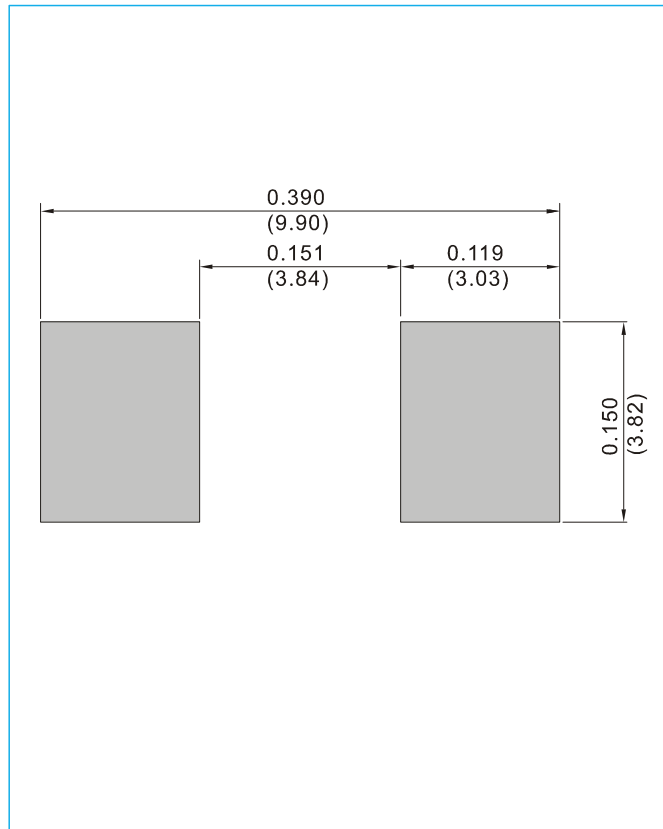


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MOUNTING PAD LAYOUT

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



MB54~MB520

Part No_packing code_Version

MB54_R1_00001

MB54_R2_00001

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th 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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