



MS14~MS120

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

VOLTAGE 40 to 200 Volt **CURRENT** 1 Ampere

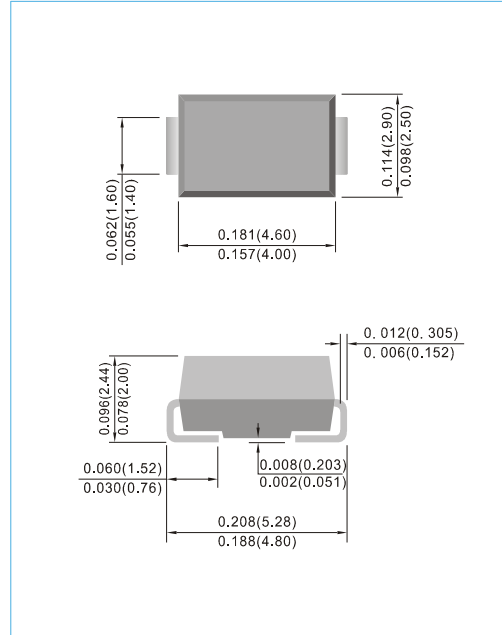
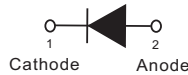
SMA / DO-214AC Unit : inch(mm)

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For surface mounted applications in order to optimize board space
- Metal to silicon rectifier. majority carrier conduction
- Low power loss,high efficiency
- High surge capacity
- High current capacity ,low V_F
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

MECHANICAL DATA

- Case: JEDEC DO-214AC 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: 0.0023 ounces, 0.0679 grams



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.

| PARAMETER | SYMBOL | MS14 | MS14A | MS15 | MS16 | MS18 | MS19 | MS110 | MS115 | MS120 | 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) | $I_{F(AV)}$ | 1 | | | | | | | | | A | |
| Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 30 | | | | | | | | | A | |
| Maximum Forward Voltage at 1A (Notes 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 | 1 | | | | | | | 0.5 | | μA | |
| Typical DC Reverse Current at Rated DC Blocking Voltage $T_J=125^\circ\text{C}$ | | 0.3 | | | 0.2 | | | 0.02 | | mA | | |
| Typical Thermal Resistance (Notes 2) | $R_{\theta JL}$ $R_{\theta JA}$ | | | | | | 30 95 | | | | $^\circ\text{C} / \text{W}$ | |
| Operating Junction and Storage Temperature Range | T_J, T_{STG} | -55 to +150 | | | | | | | | | -65 to +175 | $^\circ\text{C}$ |

NOTES :

- 1.Pulse Test with $PW = 300\mu\text{sec}$, 1% Duty Cycle.
- 2.Mounted on P.C. Board with 5mm^2 (0.013mm thick) copper pad areas.



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RATING AND CHARACTERISTIC CURVES

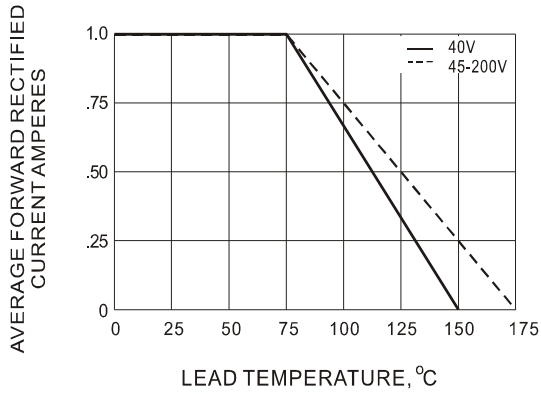


Fig.1 FORWARD CURRENT DERATING CURVE

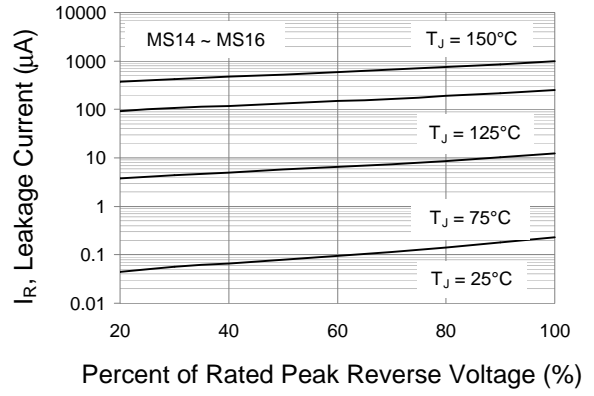


Fig.2 Typical Reverse Characteristics

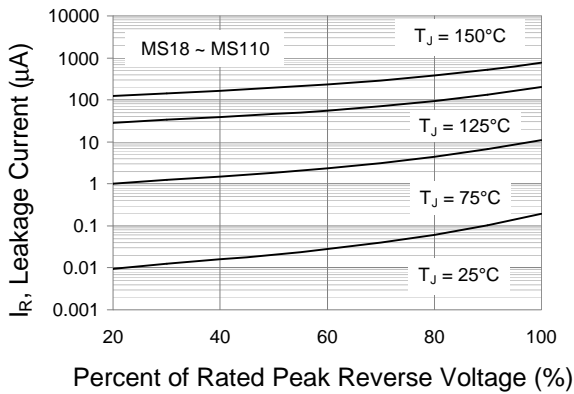


Fig.3 Typical Reverse Characteristics

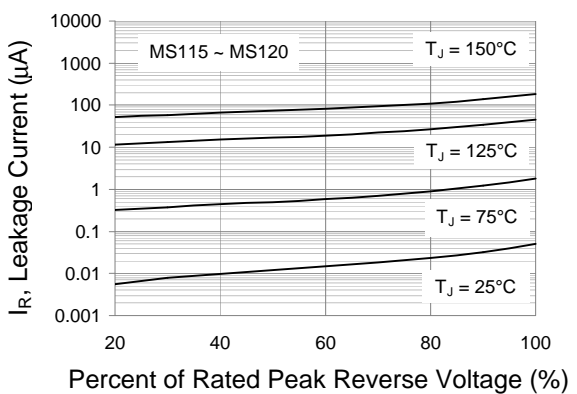


Fig.4 Typical Reverse Characteristics

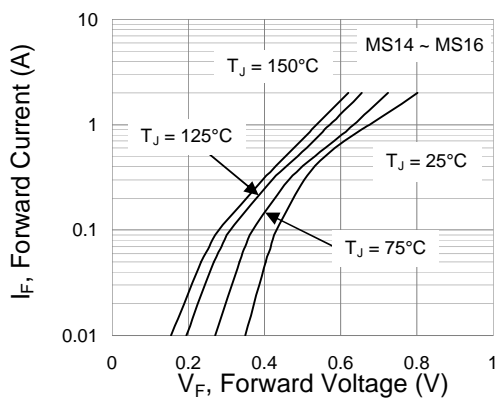


Fig.5 Typical Forward Characteristics

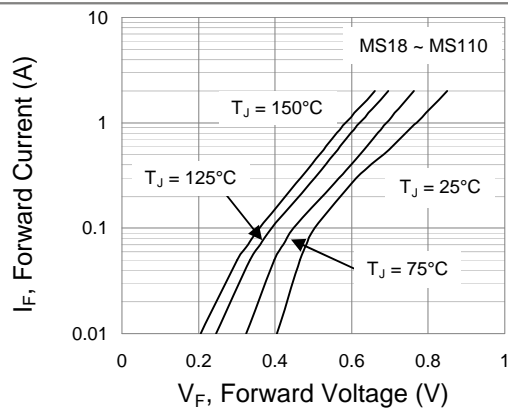


Fig.6 Typical Forward Characteristics



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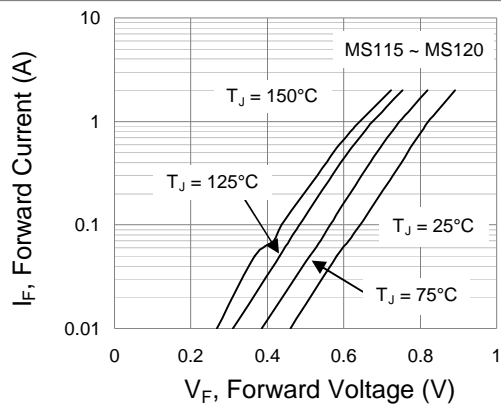


Fig.7 Typical Forward Characteristics

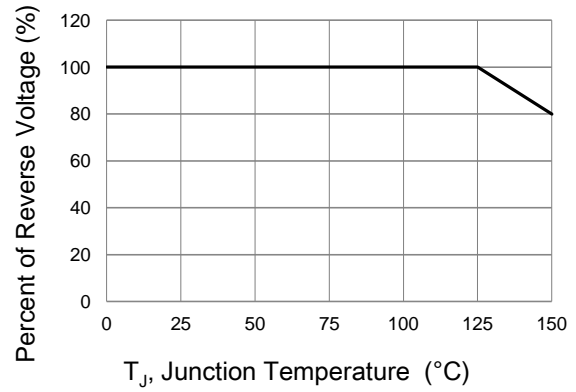
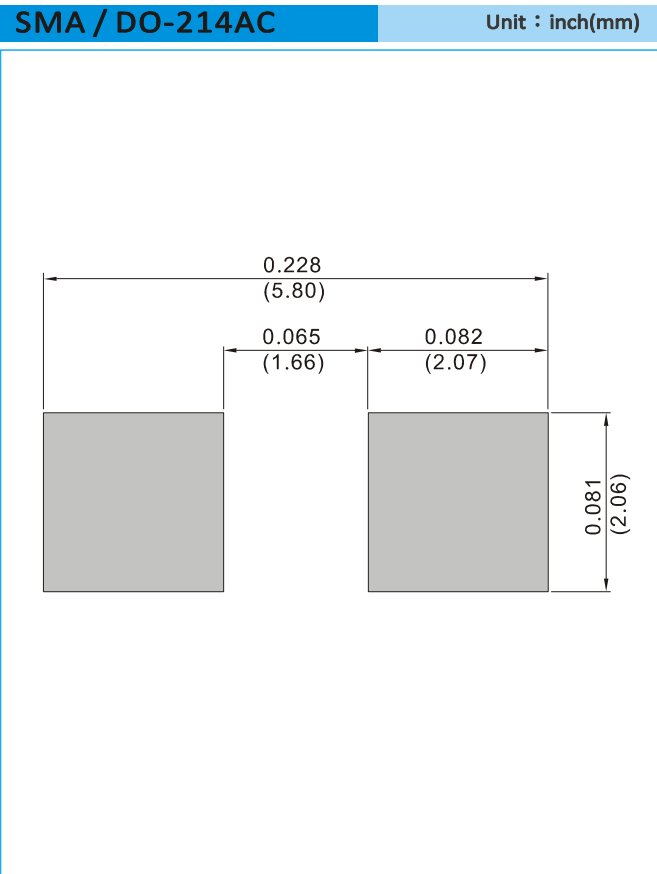


Fig.8 Operating Temperature Derating Curve



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
T/R - 7.5K per 13" plastic Reel
T/R - 1.8K per 7" plastic Reel



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Part No_packing code_Version

MS14_R1_00001

MS14_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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