



# MS14~MS120

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

**VOLTAGE** 40 to 200 Volts **CURRENT** 1.0 Amperes

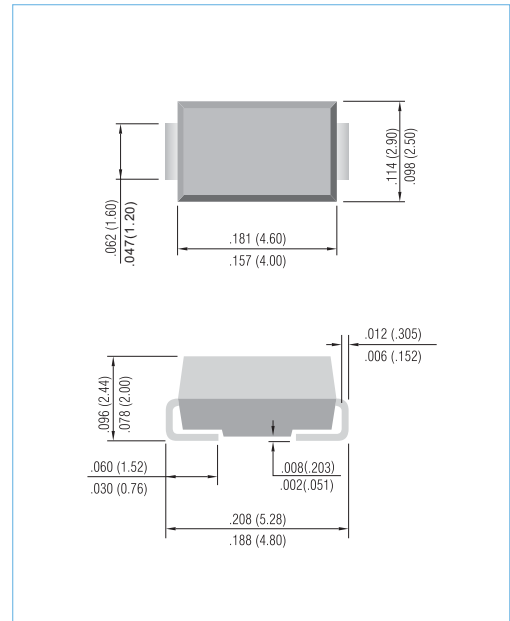
SMA / DO-214AC Unit: inch ( mm )

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Metal to silicon rectifier. majority carrier conduction
- Low power loss,high efficiency
- High surge capacity
- High current capacity ,low  $V_F$
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications.
- Lead free in comply with EU RoHS 2002/95/EC directives.

### MECHANICAL DATA

- Case: JEDEC DO-214AC molded plastic
- Terminals:Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes positive end (cathode)
- Standard packaging: 12mm tape (EIA-481)
- Weight: 0.0023 ounce, 0.0679 gram



## 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)   | $I_{F(AV)}$                        | 1.0         |       |      |      |             |      |       |       |             | A               |
| Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load(JEDEC method) | $I_{FSM}$                          | 30          |       |      |      |             |      |       |       |             | A               |
| Maximum Forward Voltage at 1.0A ( Note 1)  | $V_F$                              | 0.7         |       | 0.74 |      | 0.80        |      | 0.9   |       | V           |                 |
| Maximum DC Reverse Current $T_J=25^{\circ}C$<br>at Rated DC Blocking Voltage $T_J=100^{\circ}C$  | $I_R$                              | 0.05<br>20  |       |      |      |             |      |       |       |             | mA              |
| Typical Thermal Resistance (Note 2)  | $R_{\theta JL}$<br>$R_{\theta JA}$ | 30<br>95    |       |      |      |             |      |       |       |             | $^{\circ}C / W$ |
| 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 5.0mm<sup>2</sup> (.013mm thick) copper pad areas.



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## RATING AND CHARACTERISTIC CURVES

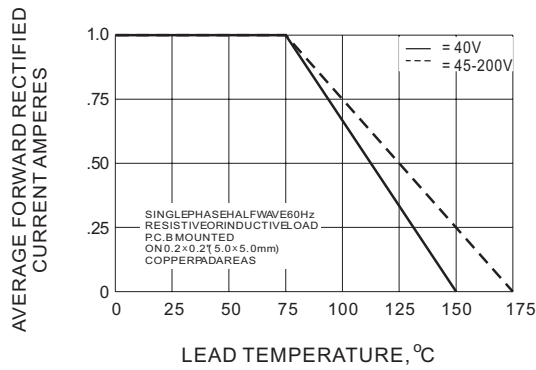


Fig.1-FORWARD CURRENT DERATING CURVE

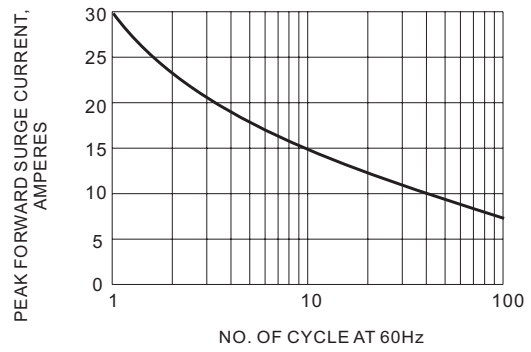


Fig.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

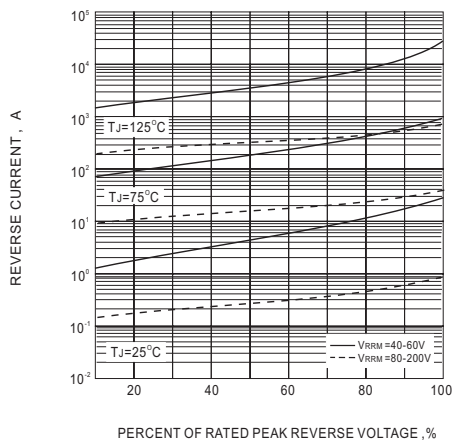


Fig.3-TYPICAL REVERSE CHARACTERISTIC

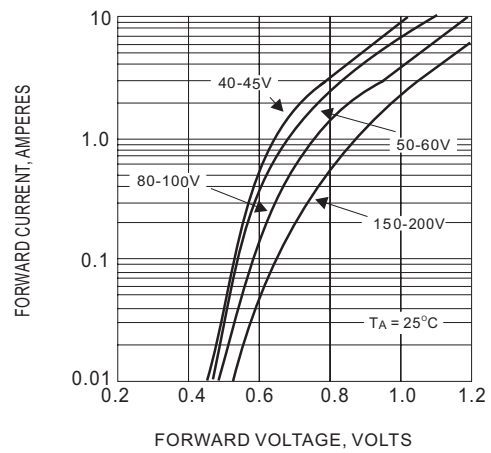
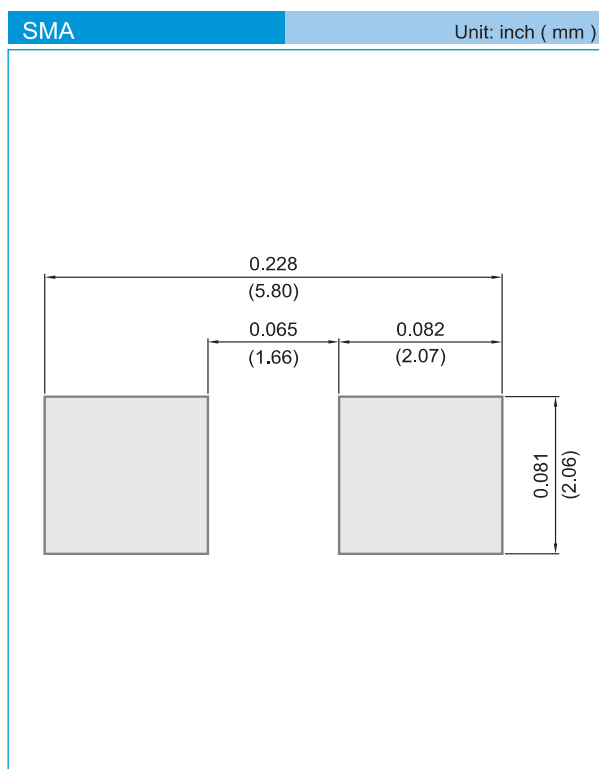


Fig.4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC



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### MOUNTING PAD LAYOUT



### ORDER INFORMATION

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

### LEGAL STATEMENT

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