

M1 THRU M7

Surface Mount General Purpose Plastic Rectifier

Reverse Voltage – 50 to 1000 V

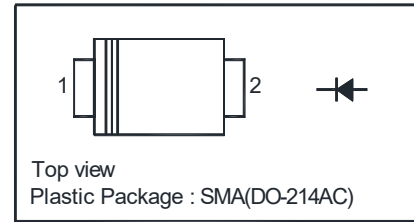
Forward Current – 1 A

Features

- Glass Passivated Chip Junction
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy to pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |



Mechanical Data

- **Case:** SMA (DO-214AC), molded plastic
- **Terminals:** Solder plated, solderable per MIL-STD-750, method 2026

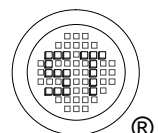
Absolute Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter | Symbols | M1 | M2 | M3 | M4 | M5 | M6 | M7 | Units |
|---------------------------------------------------------------------------------------------------|-----------------|---------------|-----|-----|-----|-----|-----|------|---------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current | $I_{F(AV)}$ | 1 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 30 | | | | | | | A |
| Maximum Instantaneous Forward Voltage at 1 A | V_F | 1.1 | | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | I_R | 5 | | | | | | | μA |
| | | 50 | | | | | | | |
| Typical Junction Capacitance ¹⁾ | C_J | 15 | | | | | | | pF |
| Typical Thermal Resistance ²⁾ | $R_{\theta JA}$ | 75 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T_j, T_{stg} | - 55 to + 150 | | | | | | | °C |

¹⁾ Measured at 1MHz and applied reverse voltage of 4 V D.C.

²⁾ P.C.B. mounted with 1.0 X 1.0" (2.54 X 2.54 cm) copper pad areas.



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Electrical Characteristics Curves

Fig.1 Forward Current Derating Curve

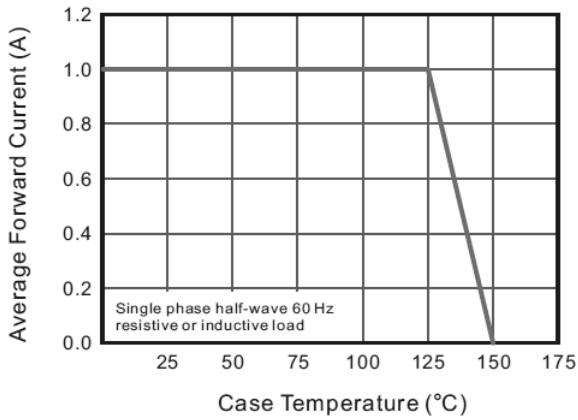


Fig.2 Typical Instantaneous Reverse Characteristics

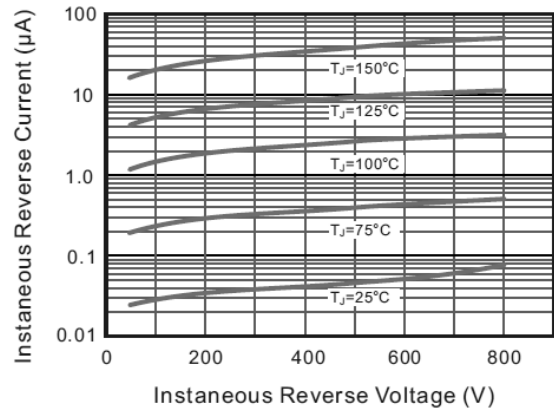


Fig.3 Typical Forward Characteristic

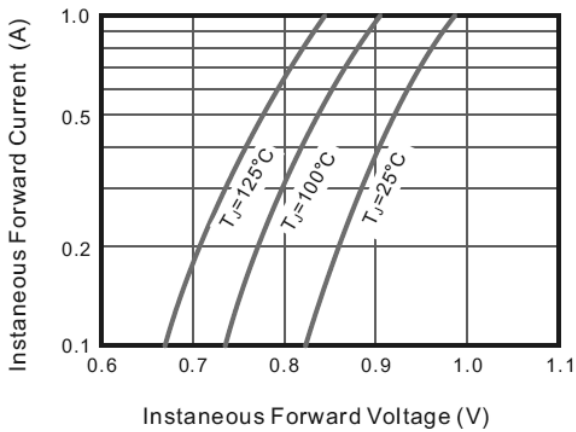


Fig.4 Typical Junction Capacitance

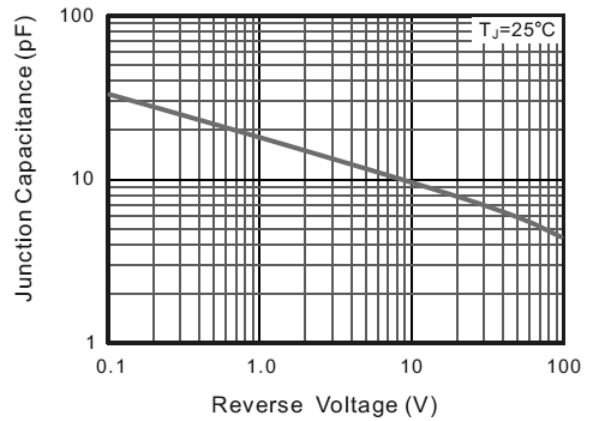
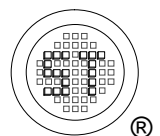
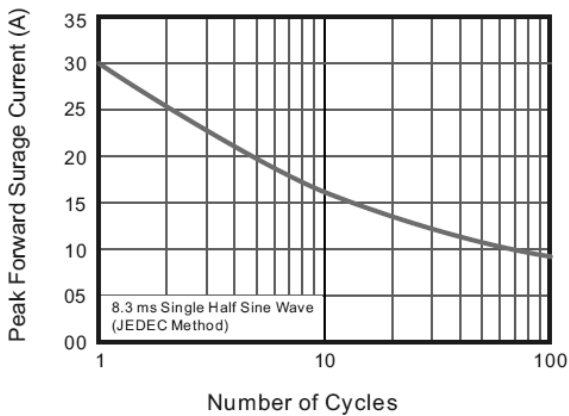


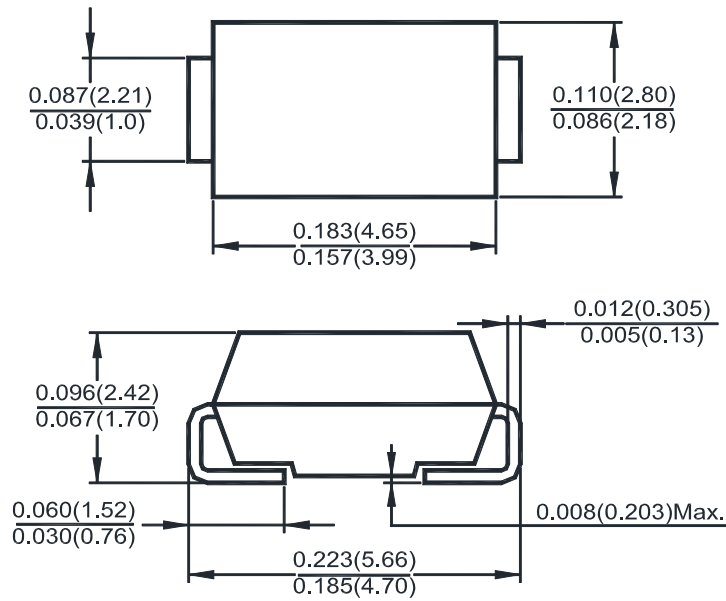
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



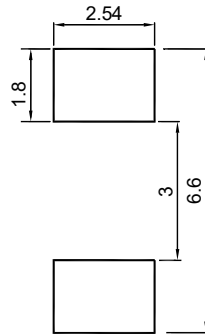
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Package Outline Dimensions in inches (millimeters)

SMA(DO-214AC)



Recommended Soldering Footprint



Marking information

" M* " = Part No.

| Type | Marking | Type | Marking | Type | Marking | Type | Marking |
|------|---------|------|---------|------|---------|------|---------|
| M1 | M1 | M3 | M3 | M5 | M5 | M7 | M7 |
| M2 | M2 | M4 | M4 | M6 | M6 | | |

" III " = Cathode line

Font type: Arial

