

M1D THRU M7D

SURFACE MOUNT GENERAL PURPOSE PLASTIC RECTIFIER

Reverse Voltage – 50 to 1000 V

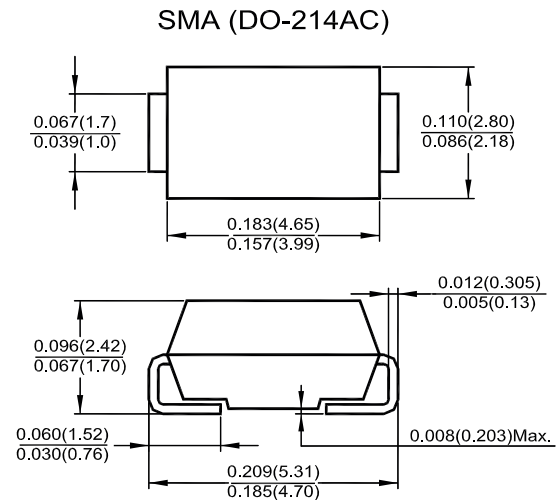
Forward Current – 1 A

Features

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

Mechanical Data

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



Dimensions in inches and (millimeters)

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	M1D	M2D	M3D	M4D	M5D	M6D	M7D	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 at $T_L = 100^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3ms 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	5 200							μA
Typical Junction Capacitance ¹⁾	C_j	15							pF
Maximum Thermal Resistance ²⁾	$R_{\theta JL}$	30							$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{stg}	- 50 to + 150							$^\circ\text{C}$

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

²⁾ 8 mm² (0.013 mm thick) land areas

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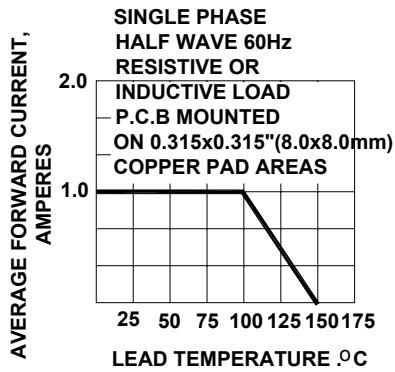


Fig. 1-FORWARD CURRENT DERATING CURVE

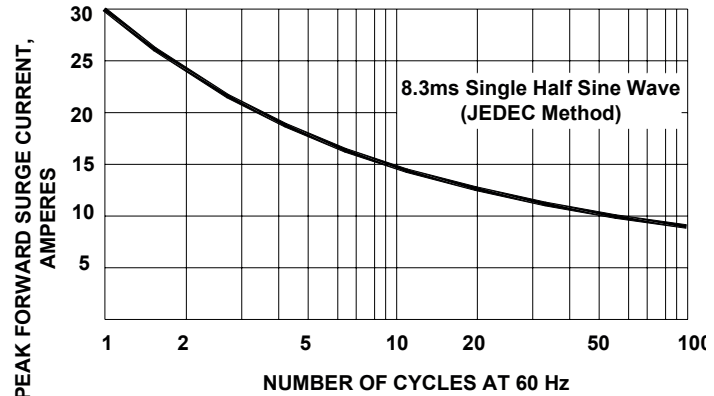


Fig. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

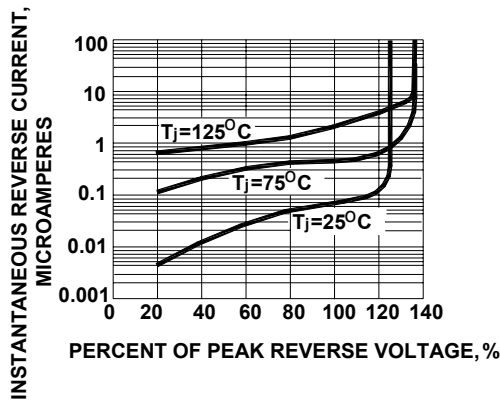


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

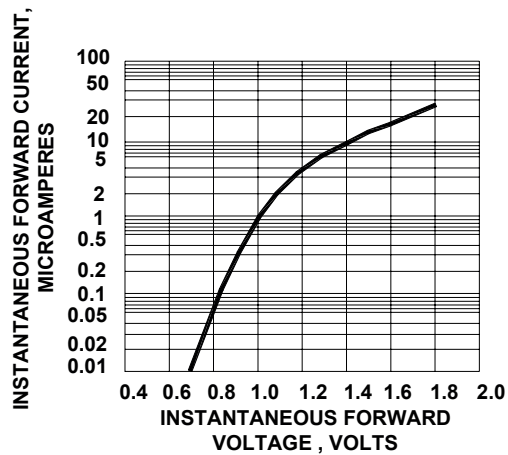


Fig. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

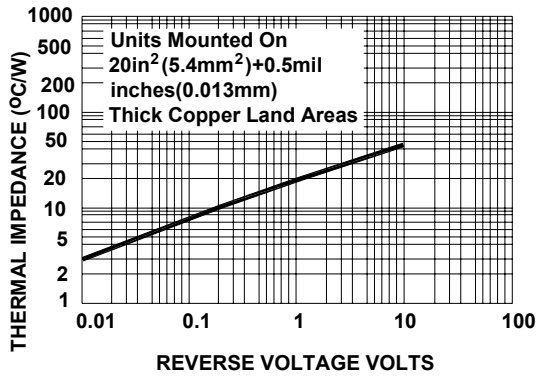


Fig. 5-TRANSIENT THERMAL IMPEDANCE

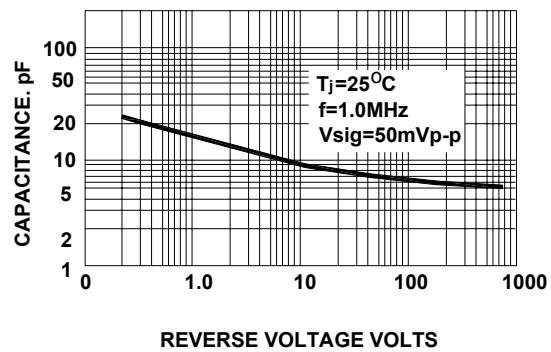


Fig. 6-TYPICAL JUNCTION CAPACITANCE