

# M1D THRU M7D

## SURFACE MOUNT GENERAL PURPOSE PLASTIC RECTIFIER

Reverse Voltage – 50 to 1000 V

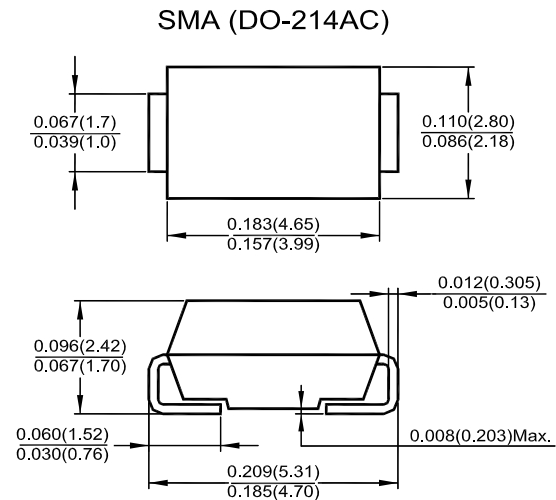
Forward Current – 1 A

### 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							$\mu\text{A}$
Typical Junction Capacitance <sup>1)</sup>	$C_j$	15							pF
Maximum Thermal Resistance <sup>2)</sup>	$R_{\theta JL}$	30							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{stg}$	- 50 to + 150							$^\circ\text{C}$

<sup>1)</sup> Measured at 1MHz and applied reverse voltage of 4 V

<sup>2)</sup> 8 mm<sup>2</sup> (0.013 mm thick) land areas

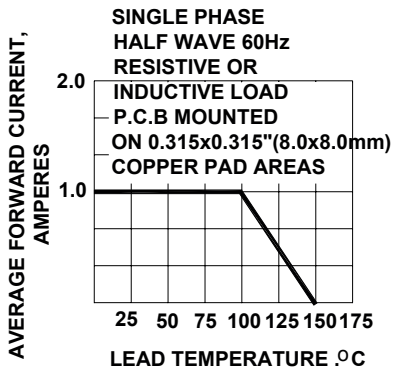


Fig. 1-FORWARD CURRENT DERATING CURVE

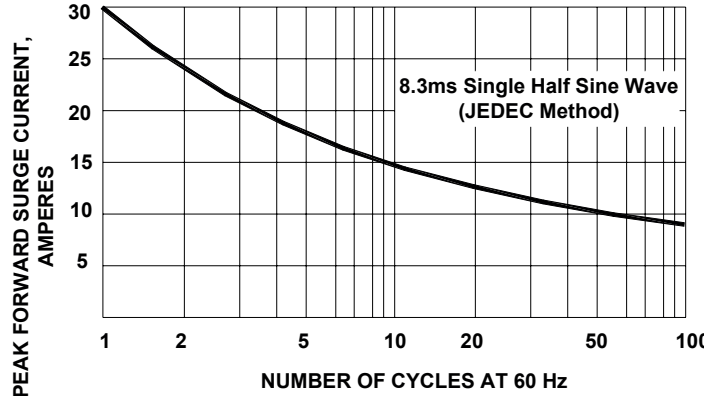


Fig. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

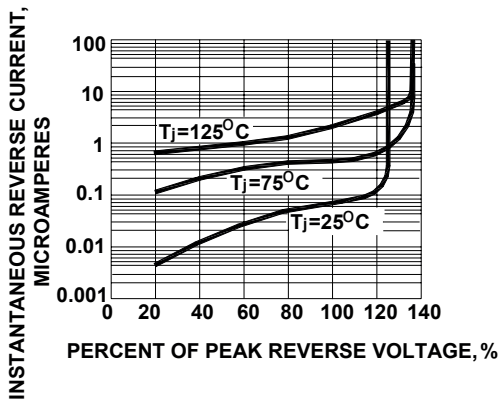


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

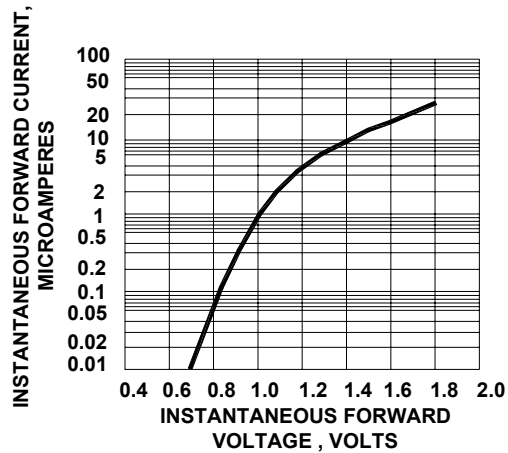


Fig. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

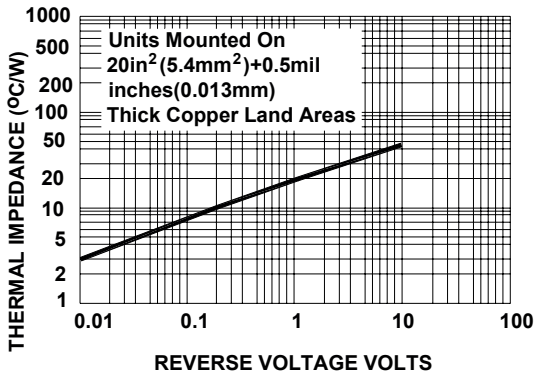


Fig. 5-TRANSIENT THERMAL IMPEDANCE

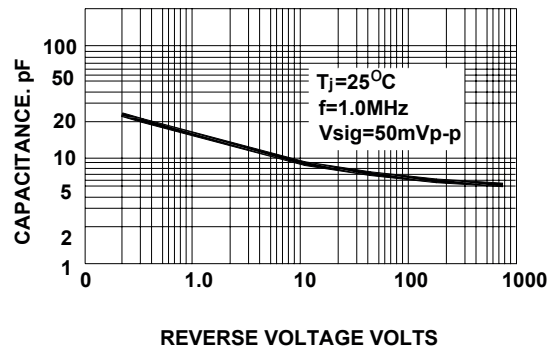


Fig. 6-TYPICAL JUNCTION CAPACITANCE