

Pb Free Plating Product

## M1 thru M7



### 1.0 AMP SURFACE MOUNT GENERAL PURPOSE RECTIFIERS

#### Features

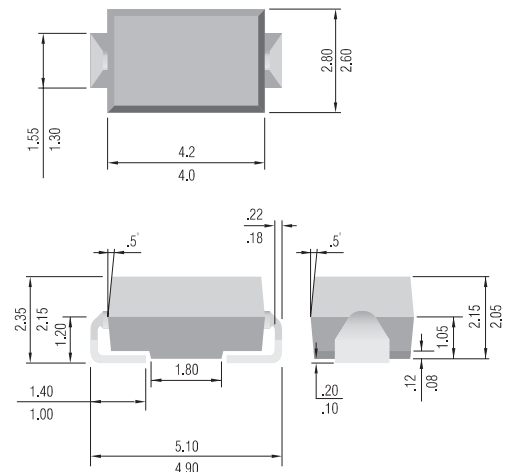
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature soldering: 260°C/10 seconds at terminals

#### Mechanical Data

- **Case:** SMA-W molded plastic
- **Terminals:** Solder plated, solderable per MIL-STD-750, method 2026
- **Polarity:** Indicated by cathode band
- **Weight:** 0.004 ounce, 0.115 gram

SMA-W

Unit: mm



#### Absolute Maximum Ratings and Characteristics

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

	Symbols	M1	M2	M3	M4	M5	M6	M7	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current at $T_L = 100^\circ\text{C}$	$I_{(AV)}$	1							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method)	$I_{FSM}$	30							Amps
Maximum instantaneous forward voltage at 1A	$V_F$	1.1							Volts
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 125^\circ\text{C}$	$I_R$	5 200							$\mu\text{A}$
Maximum reverse recovery time (Note 1)	$T_{rr}$	2							$\mu\text{S}$
Typical junction capacitance (Note 2)	$C_J$	15							pF
Maximum thermal resistance (Note 3)	$R_{\theta JL}$	30							$^\circ\text{C/W}$
Operating and storage temperature range	$T_J, T_S$	-50 to + 150							$^\circ\text{C}$

- Notes: (1) Reverse recovery test conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{rr} = 0.25\text{A}$   
 (2) Measured at 1MHz and applied reverse voltage of 4volts  
 (3)  $8\text{mm}^2$  (0.013mm thick) land areas

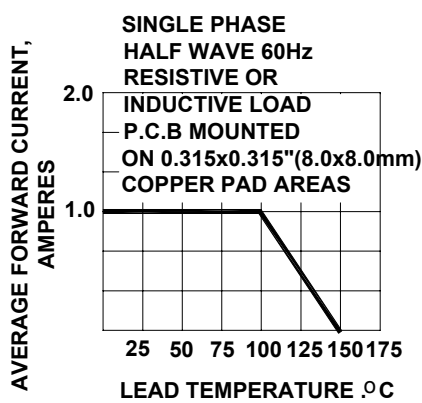


Fig. 1-FORWARD CURRENT DERATING CURVE

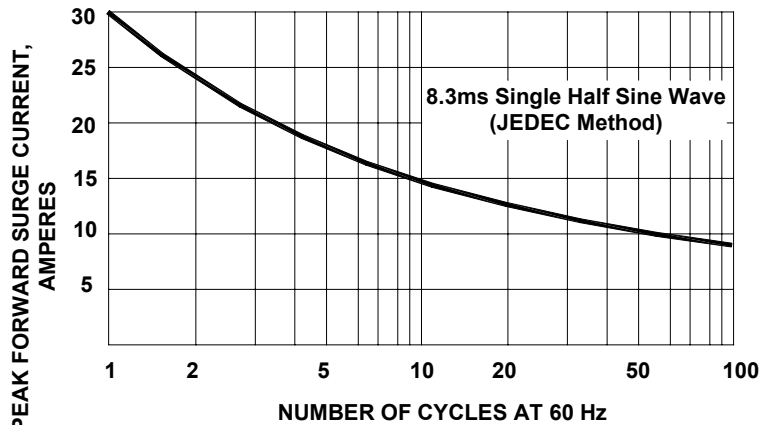


Fig. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

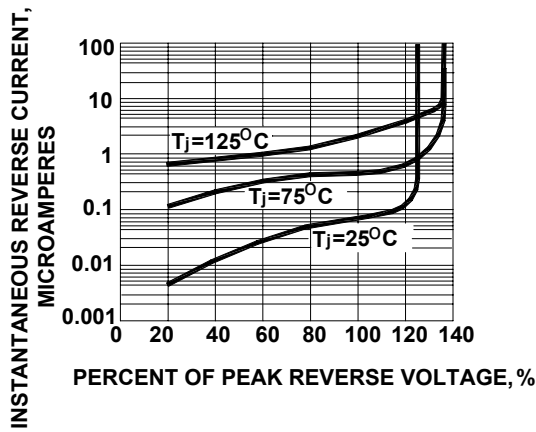


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

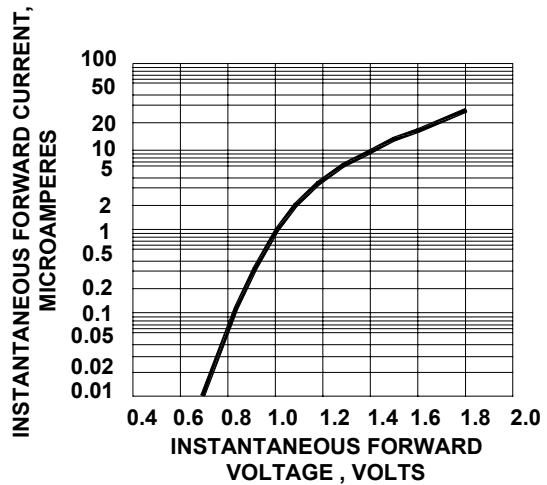


Fig. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

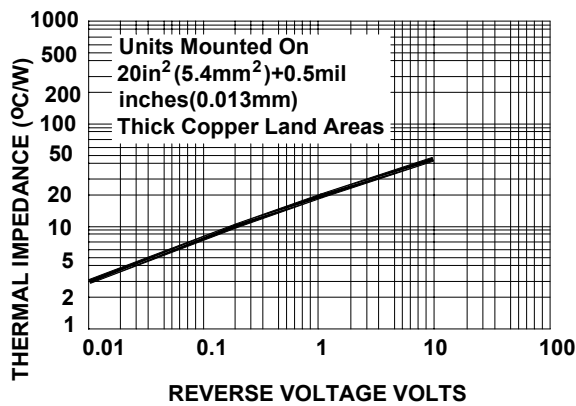


Fig. 5-TRANSIENT THERMAL IMPEDANCE

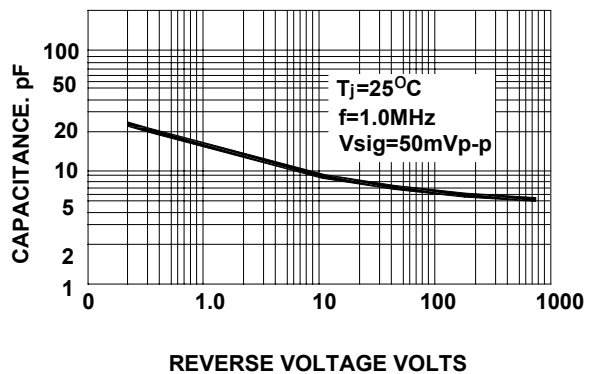


Fig. 6-TYPICAL JUNCTION CAPACITANCE