

S1A THRU S1M

SURFACE MOUNT GENERAL RECTIFIER

Reverse Voltage – 50 to 1000 V

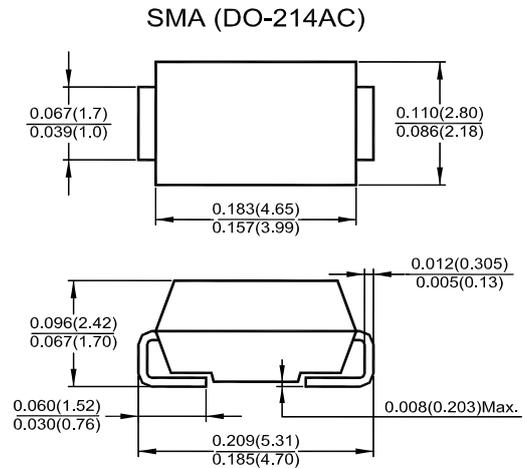
Forward Current – 1 A

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Glass passivated chip junction
- For surface mount application
- Low profile package
- Built-in strain relief, ideal for automated placement

Mechanical Data

- **Case:** SMA (DO-214AC), molded plastic
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity:** Color band denotes cathode end



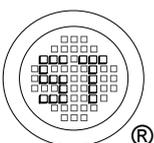
Dimensions in inches and (millimeters)

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	S1A	S1B	S1D	S1G	S1J	S1K	S1M	Units
Maximum Recurrent 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 Forward Voltage at 1 A	V_F	1.1							V
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$	I_R	5 50							μA
Typical Junction Capacitance at $V_R = 4\text{ V}$, $f = 1\text{ MHz}$	C_J	12							pF
Typical Thermal Resistance ¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	75 27							$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_S	- 55 to +1 50							$^\circ\text{C}$

¹⁾ Thermal resistance from junction to ambient from junction to lead mounted on P.C.B. with 0.2 X 0.2" (5 X 5 mm) copper pad areas



SEMTECH ELECTRONICS LTD.

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Dated : 14/04/2008

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FIG.1-FORWARD DERATING CURVE

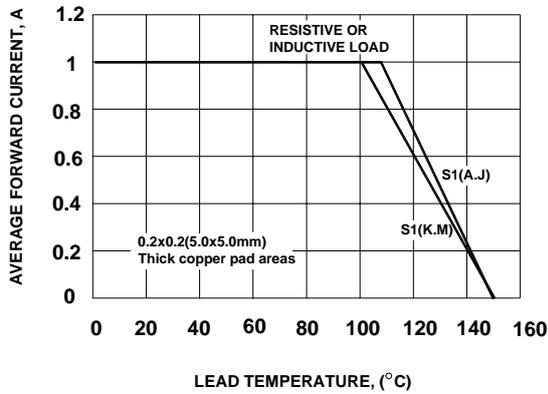


FIG.2- PEAK FORWARD SURGE CURRENT

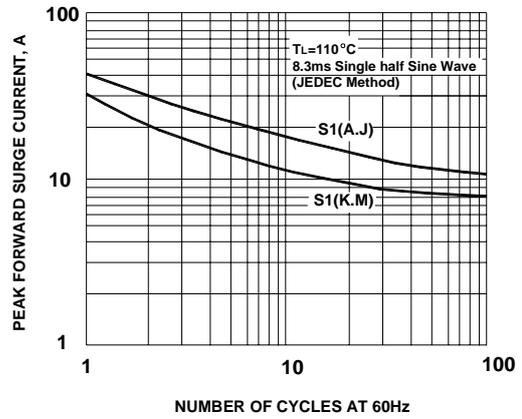


FIG.3-TYPICAL FORWARD CHARACTERISTICS

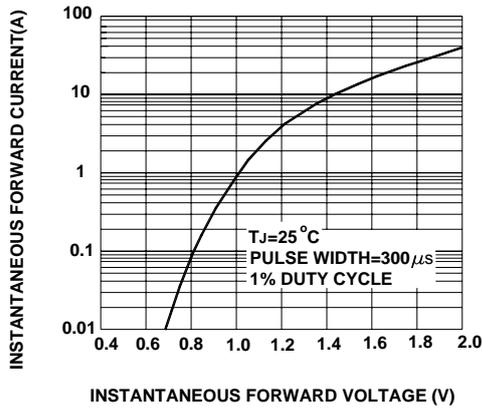


FIG.4-TYPICAL REVERSE CHARACTERISTICS

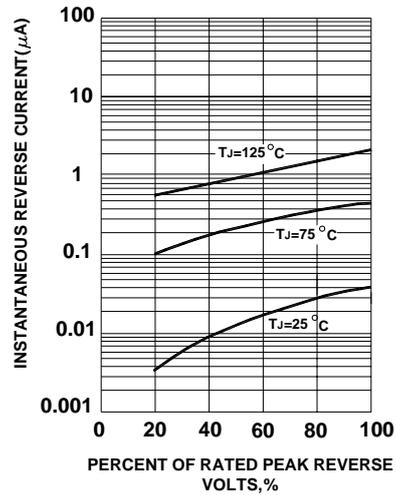


FIG.5- TYPICAL JUNCTION CAPACITANCE

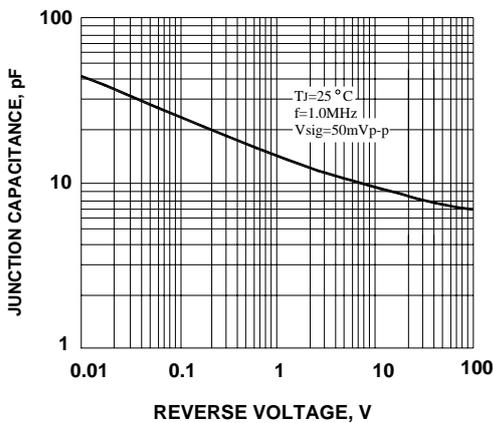
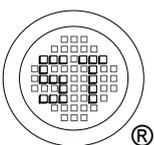
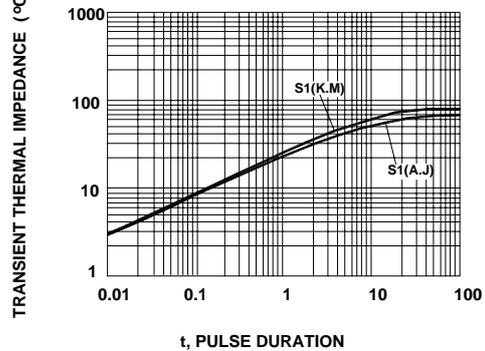


FIG.6- TRANSIENT THERMAL IMPEDANCE



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