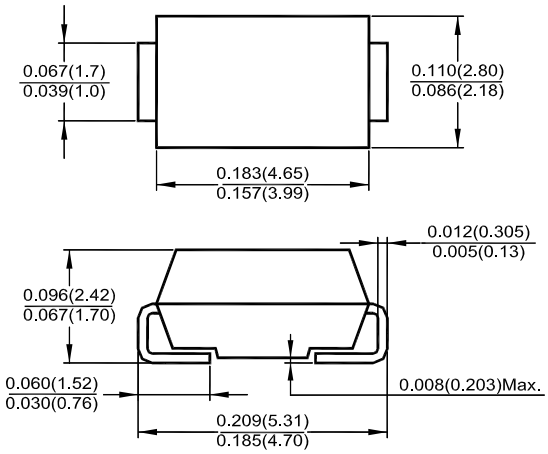
S1AD THRU S1MD

Surface Mount General Rectifier
Reverse Voltage – 50 to 1000 V
Forward Current – 1 A

Features
- The Plastic package carries Underwriters Laboratories Flammability Classification 94V-0
- For surface mounted applications
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- High forward surge current capability

SMA (DO-214AC)



Dimensions in inches and (millimeters)

Mechanical Data
- **Case:** JEDEC DO-214AC, molded plastic body
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity:** Color band denates cathode end
- **Mounting Position:** Any

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	S1AD	S1BD	S1DD	S1GD	S1JD	S1KD	S1MD	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 = 110 °C	$I_{F(AV)}$	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 T_a = 25 °C at Rated DC Blocking Voltage T_a = 100 °C	I_R	5 50							μA
Typical Junction Capacitance [1]	C_J	15							pF
Typical Thermal Resistance [2]	$R_{\theta JA}$	75							°C/W
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 65 to + 175							°C

[1] Measured at 1 MHz and applied reverse voltage of 4 V.

[2] P.C.B. mounted with 0.2 X 0.2" (5.0 X 5.0 mm) copper pad areas.

FIG. 1- FORWARD CURRENT DERATING CURVE

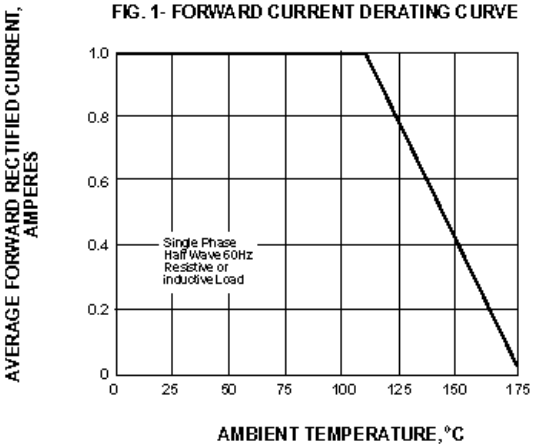


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

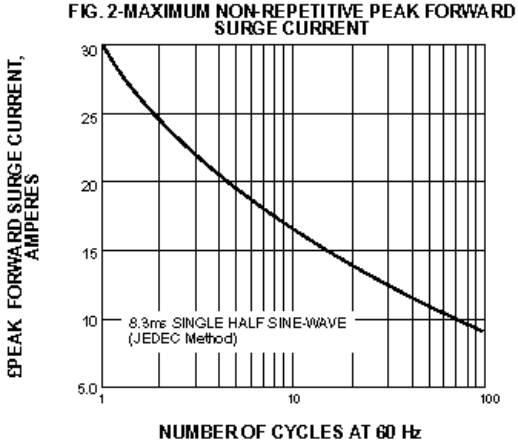


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

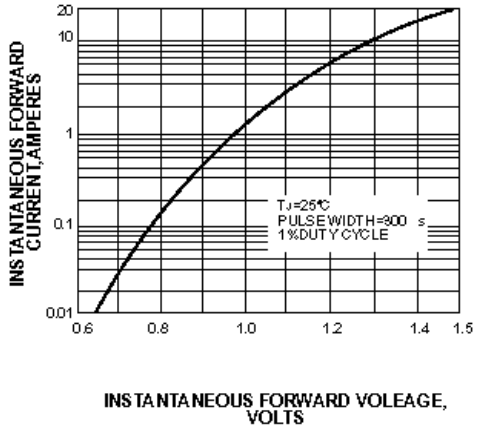


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

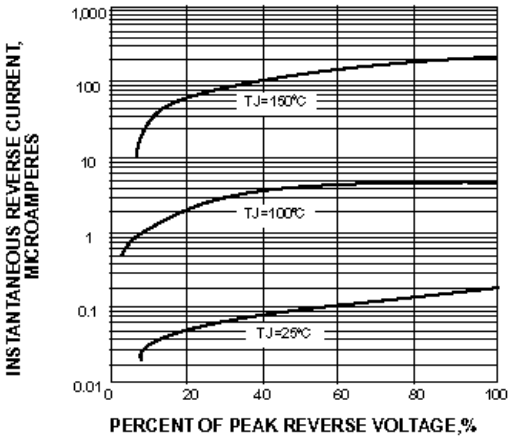


FIG. 5-TYPICAL JUNCTION CAPACITANCE

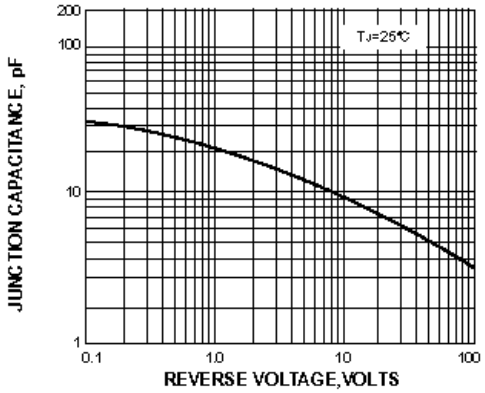


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE