

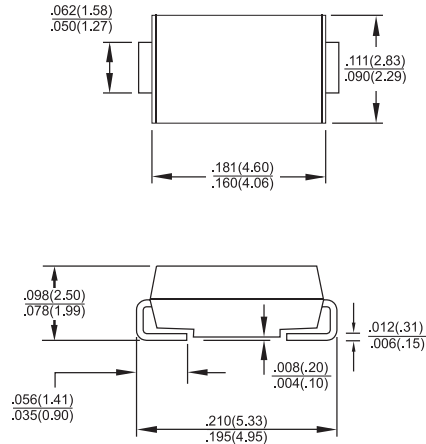
S1A - S1M

1.0 AMP. Surface Mount Rectifiers SMA/DO-214AC



Features

- ✧ For surface mounted application
- ✧ Glass passivated junction chip.
- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ Easy pick and place
- ✧ High surge current capability
- ✧ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ✧ High temperature soldering:
260°C / 10 seconds at terminals
- ✧ High reliability grade (AEC Q101 qualified)



Mechanical Data

- ✧ Case: Molded plastic
- ✧ Terminals: Pure tin plated, lead free solderable per J-STD-002B and JESD22-B102D.
- ✧ Polarity: Indicated by cathode band
- ✧ Packaging: 12mm tape per EIA STD RS-481
- ✧ Weight: 0.064 gram

Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating 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%

Type Number	Symbol	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 @ $T_L=110^\circ\text{C}$	$I_{(AV)}$	1.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	40						30	A
Maximum Instantaneous Forward Voltage @ 1.0A	V_F	1.1							V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$	I_R					1.0			uA
						50			uA
Typical Reverse Recovery Time (Note 1)	T_{rr}					1.5			uS
Typical Junction Capacitance (Note 2)	C_j					12			pF
Non-Repetitive Peak Reverse Avalanche Energy at 25°C, $I_{AS}=1\text{A}$, $L=10\text{mH}$	E_{AS}					5			mJ
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$					27	30		°C/W
	$R_{\theta JA}$					75	85		
Operating Temperature Range	T_J	-55 to +150							°C
Storage Temperature Range	T_{STG}	-55 to +150							°C

- Notes:
1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 2. Measured at 1 MHz and Applied $V_R=4.0$ Volts
 3. Measured on P.C. Board with 0.2" x 0.2" (5.0mm x 5.0mm) Copper Pad Areas.

RATINGS AND CHARACTERISTIC CURVES (S1A THRU S1M)

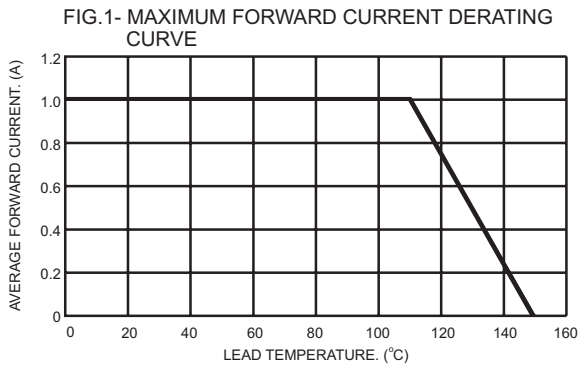


FIG.2- TYPICAL REVERSE CHARACTERISTICS

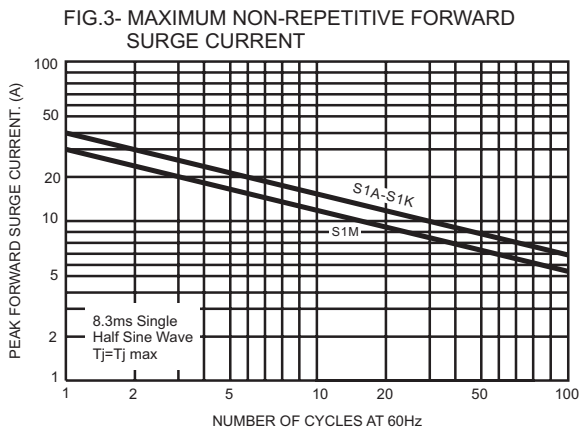
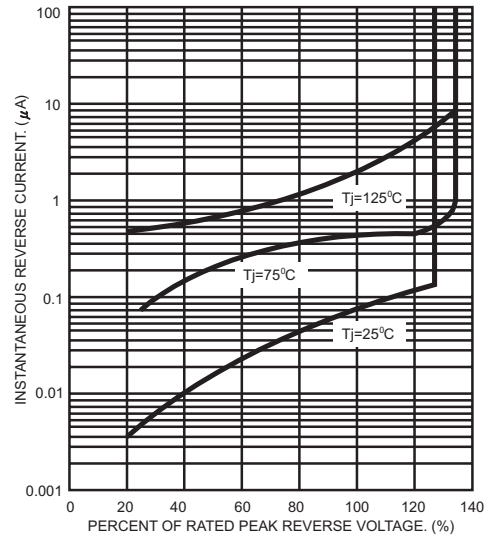


FIG.5- TYPICAL FORWARD CHARACTERISTICS

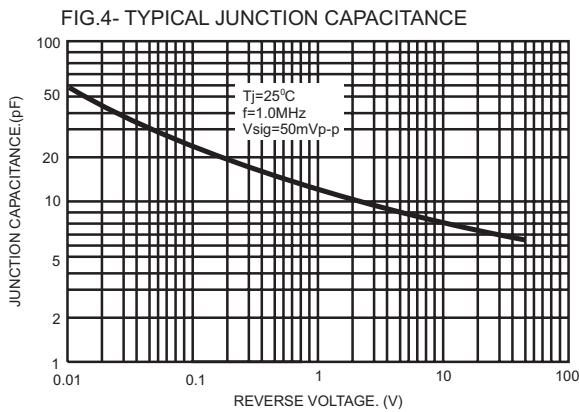
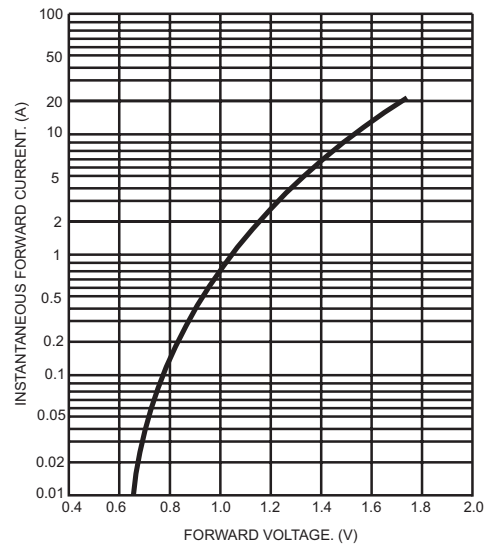


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

