



S1A-S1M

1.0 AMP. Surface Mount Rectifiers

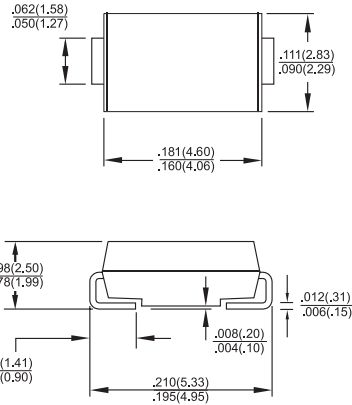
SMA/DO-214AC

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				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, $I_{AS}=1A$, $L=10mH$	E_{AS}	5							mJ	
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$ $R_{\theta JA}$	27 75				30 85			°C/W	
Operating Temperature Range	T_J	-55 to +150							°C	
Storage Temperature Range	T_{STG}	-55 to +150							°C	

- Notes:
1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$
 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.1- MAXIMUM FORWARD CURRENT DERATING CURVE

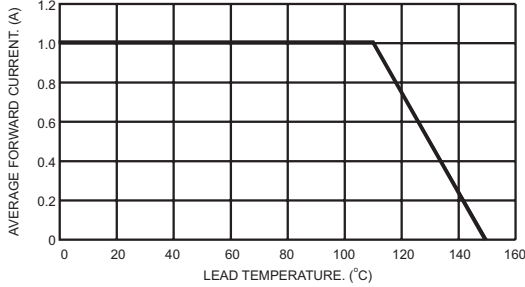


FIG.2- TYPICAL REVERSE CHARACTERISTICS

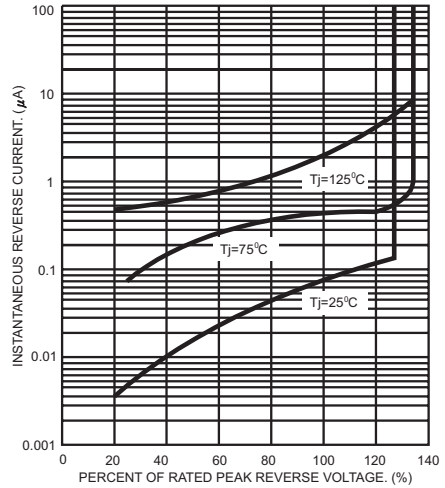


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

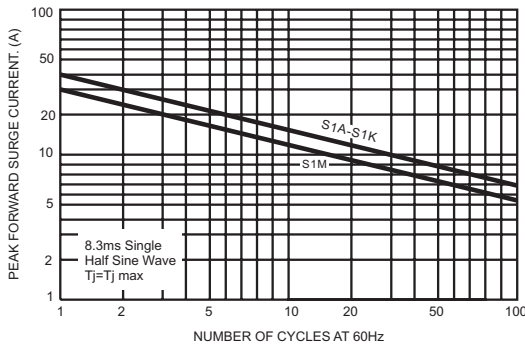


FIG.5- TYPICAL FORWARD CHARACTERISTICS

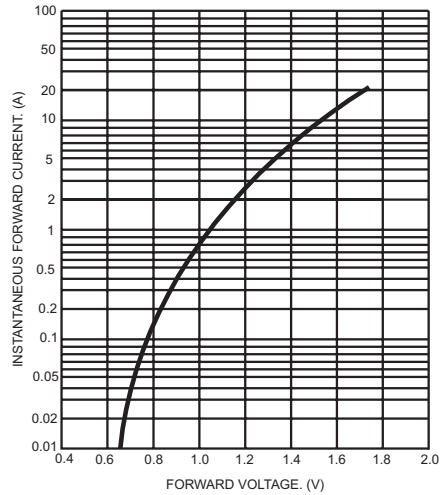


FIG.4- TYPICAL JUNCTION CAPACITANCE

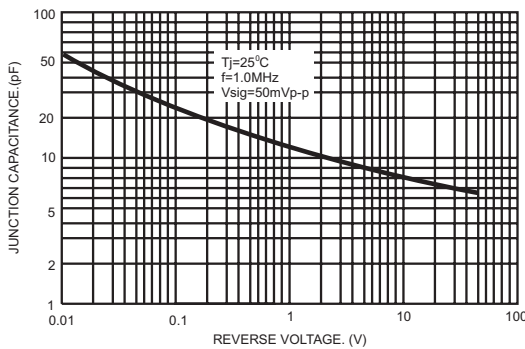


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

