



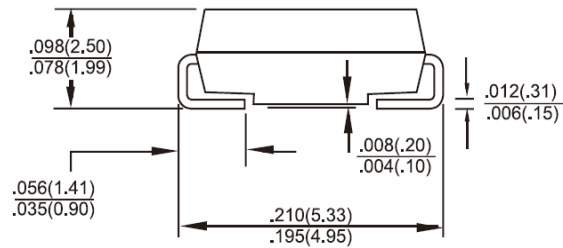
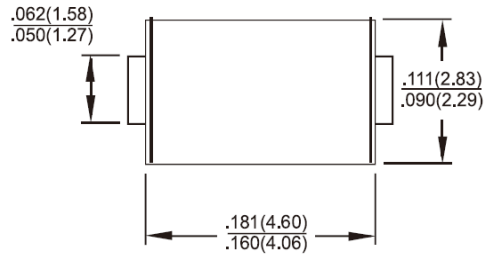
S1A - S1M

1.0AMP Surface Mount Rectifiers

SMA/DO-214AC

Features

- ✧ For surface mounted application
- ✧ Glass passivated chip junction
- ✧ 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
- ✧ Qualified as per AEC-Q101
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode



Mechanical Data

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

Dimensions in inches and (millimeters)

Marking Diagram



- S1X = Specific Device Code
- G = Green Compound
- Y = Year
- M = Work Month

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	Unit
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	$I_{F(AV)}$	1							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	40							A
Maximum Instantaneous Forward Voltage (Note 1) @ 1 A	V_F	1.1							V
Maximum Reverse Current @ Rated VR $T_A=25\text{ }^{\circ}\text{C}$ $T_A=125\text{ }^{\circ}\text{C}$	I_R	1 50							uA
Maximum Reverse Recovery Time (Note 2)	T_{rr}	1.5							uS
Typical Junction Capacitance (Note 3)	C_j	12							pF
Non-Repetitive Peak Reverse Avalanche Energy at 25°C, $I_{AS}=1\text{A}$, $L=10\text{mH}$	E_{RSM}	5							mJ
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JL}$	75 27							°C/W
Operating Temperature Range	T_J	- 55 to + 175							°C
Storage Temperature Range	T_{STG}	- 55 to + 175							°C

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

RATINGS AND CHARACTERISTIC CURVES (S1A THRU S1M)

FIG.1 FORWARD CURRENT DERATING CURVE

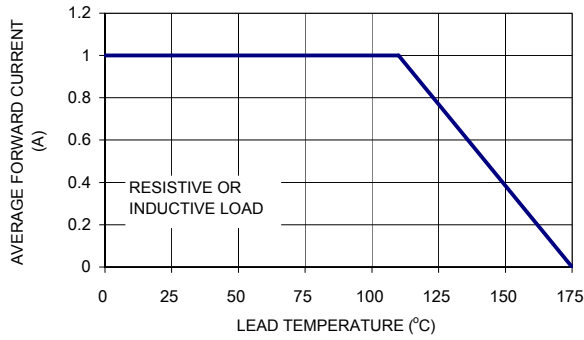


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

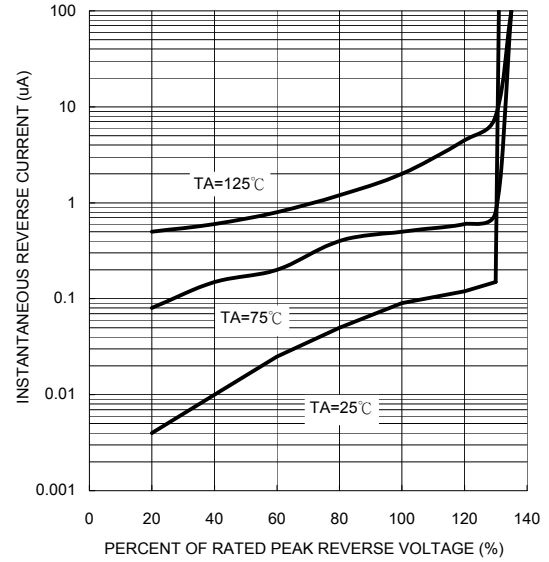


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

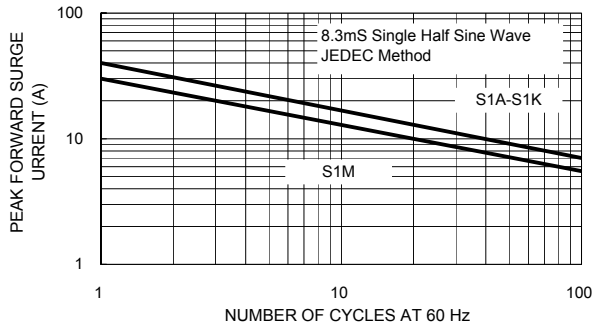


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

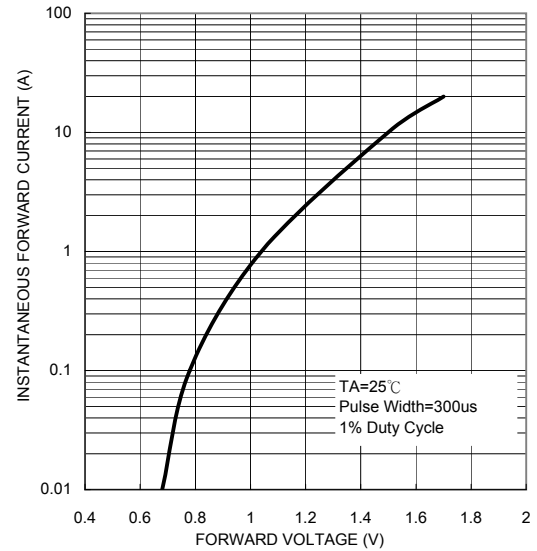


FIG. 4 TYPICAL JUNCTION CAPACITANCE

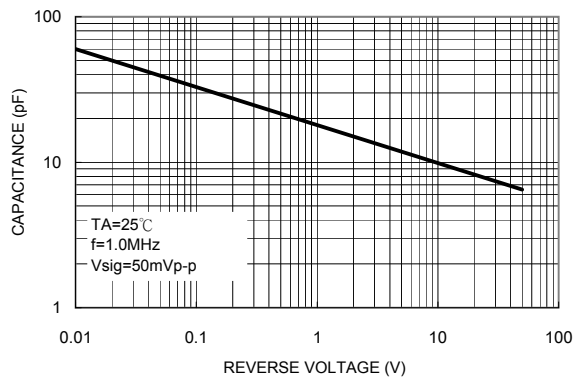


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

