

## S1A THRU S1M 1.0A SURFACE MOUNT GLASS PASSIVATED RECTIFIER



### Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop
- Low Power Loss
- Built-in Strain Relief
- Plastic Case Material has UL Flammability Classification Rating 94V-0
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

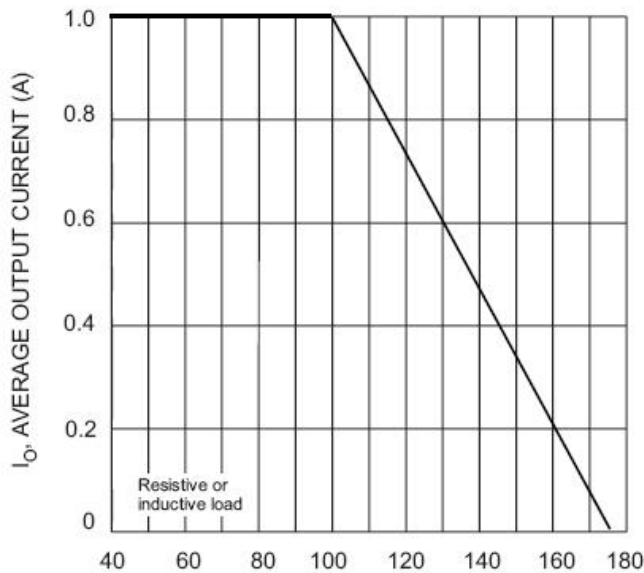
- Case: SMA molded plastic body
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.06 grams

### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

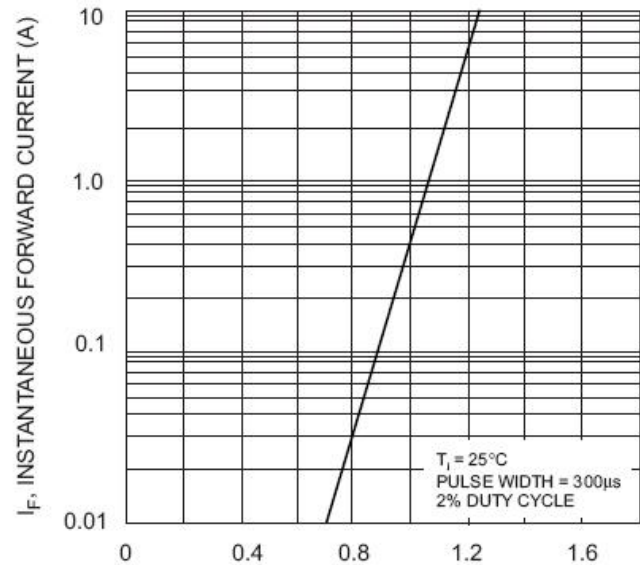
Type Number	Symbol	S1A	S1B	S1D	S1G	S1J	S1K	S1M	Units
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	V <sub>RWM</sub>								
DC Blocking Voltage	V <sub>R</sub>								
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Average Rectified Output Current @T <sub>L</sub> = 100°C	I <sub>O</sub>	1.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30							A
Forward Voltage @ I <sub>F</sub> = 1.0 A	V <sub>F</sub>	1.10							V
Peak Reverse Current @T <sub>A</sub> = 25°C At Rated DC Blocking Voltage @T <sub>A</sub> = 125°C	I <sub>RM</sub>	5.0 200							μA
Reverse Recovery Time(Note1)	t <sub>rr</sub>	2.5							μS
Typical Junction Capacitance(Note2)	C <sub>J</sub>	15							pF
Typical Thermal Resistance Junction to Lead (Note 3)	R <sub>θJL</sub>	30							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175							°C

Note: 1. Reverse recovery condition IF=0.5A, IR=1.0A, Irr=0.25A  
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
3. Mounted on P.C.B.with 8.0mm<sup>2</sup> land areas.

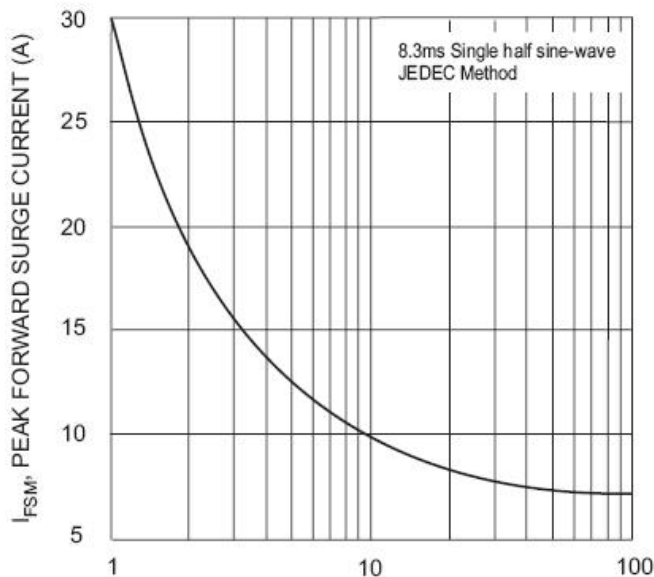
## Ratings and Characteristics Curves



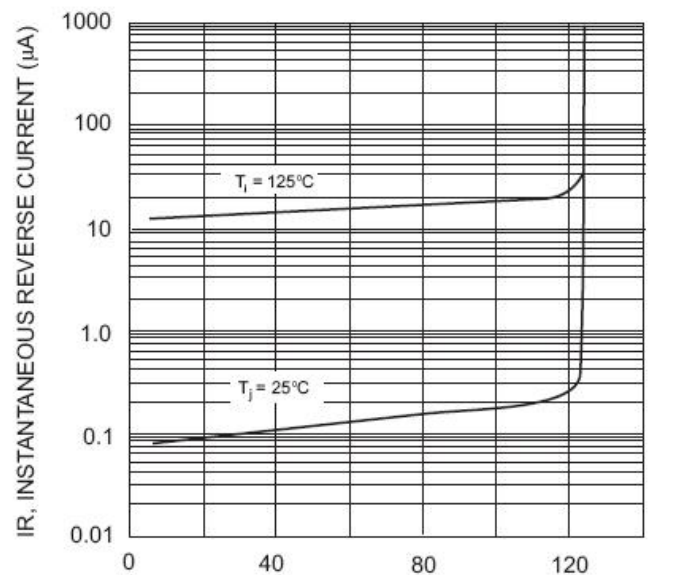
$T_L$ , LEAD TEMPERATURE (°C)  
Fig. 1 Forward Current Derating Curve



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics

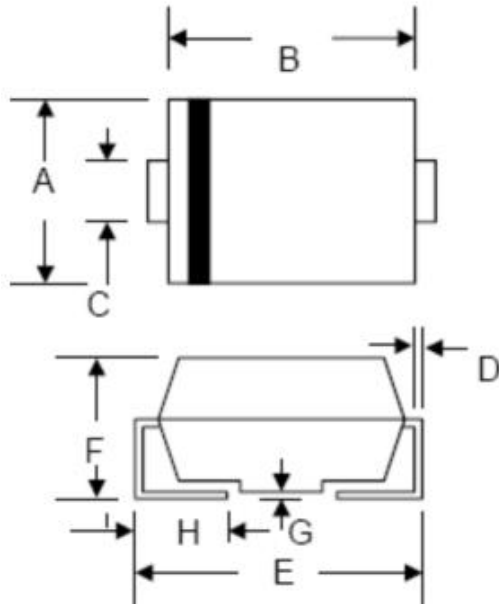


NUMBER OF CYCLES @ 60Hz  
Fig. 3 Max Non-Repetitive Peak Fwd Surge Current



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)  
Fig. 4 Typical Reverse Characteristics

## Mechanical Dimensions SMA



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.40	2.84	0.094	0.112
B	3.99	4.75	0.157	0.187
C	1.05	1.70	0.041	0.067
D	0.15	0.51	0.006	0.020
E	4.80	5.66	0.189	0.223
F	1.90	2.95	0.075	0.116
G	0.05	0.203	0.002	0.008
H	0.76	1.52	0.030	0.600

## Ordering Information

Device	Package	Shipping
S1A-S1M	SMA (Pb-Free)	5000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

## Marking Diagram

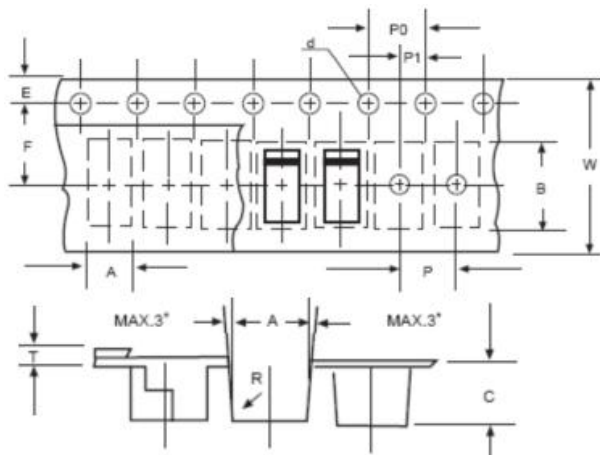


Where XXXXX is YYWWL

S1A = Type Number  
YY = Year  
WW = Week  
L = Lot Number

Cautions: Molding resin  
Epoxy resin UL94V-0

## Carrier Tape Specification SMA



SYMBOL	Millimeters	
	Min.	Max.
A	2.97	3.17
B	5.70	5.90
C	2.32	2.52
d	1.40	1.60
E	1.40	1.60
F	5.60	5.70
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
T	0.25	0.35
W	11.80	12.20

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