

## RS1M

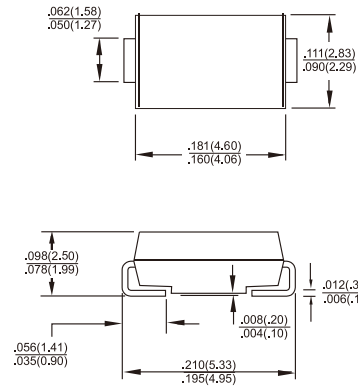
1.0 AMP. Surface Mount Fast Recovery Rectifiers

### SMA/DO-214AC



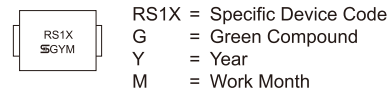
### Features

- ✧ UL Recognized File # E-326243
- ✧ For surface mounted application
- ✧ Glass passivated junction chip
- ✧ Built-in strain relief, ideal for automated placement
- ✧ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ✧ Fast switching for high efficiency
- ✧ High temperature soldering: 260°C/ 10 seconds at terminals
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.



Dimensions in inches and (millimeters)

### Marking Diagram



### Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Terminals: Pure tin plated, Lead free.
- ✧ Polarity: Indicated by cathode band
- ✧ Packing: 12mm tape per EIA STD RS-481
- ✧ Weight: 0.064 grams

### 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	RS 1A	RS 1B	RS 1D	RS 1G	RS 1J	RS 1K	RS 1M	Units
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current See Fig. 1 @ T <sub>L</sub> =90 °C	I <sub>F(AV)</sub>	1.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	I <sub>FSM</sub>	30							A
Maximum Instantaneous Forward Voltage @ 1.0A	V <sub>F</sub>	1.3							V
Maximum DC Reverse Current at Rated DC Blocking Voltage ( Note 1 )	I <sub>R</sub>	5							uA
		50							uA
Maximum Reverse Recovery Time ( Note 4 )	T <sub>rr</sub>	150			250		500		nS
Typical Junction Capacitance ( Note 2 )	C <sub>j</sub>	10							pF
Typical Thermal Resistance (Note 3)	R <sub>θJA</sub> R <sub>θJL</sub>	105 32							°C /W
Operating Temperature Range	T <sub>J</sub>	-55 to +150							°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150							°C

- Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle  
 2. Measured at 1 MHz and Applied V<sub>R</sub>=4.0 Volts  
 3. Mounted on P.C.B. with 0.2"x0.2" ( 5.0 x 5.0 mm ) Copper Pad Areas.  
 4. Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

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## RATINGS AND CHARACTERISTIC CURVES (RS1A THRU RS1M)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

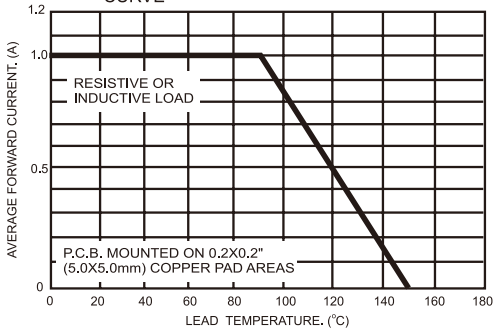


FIG.2- TYPICAL REVERSE CHARACTERISTICS

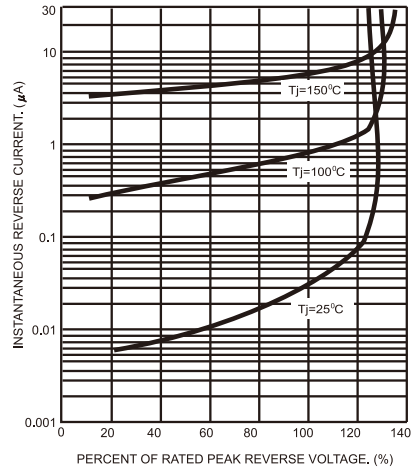


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

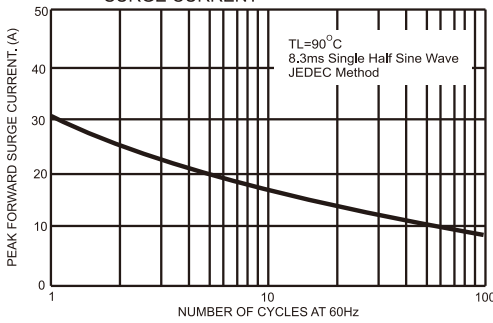


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

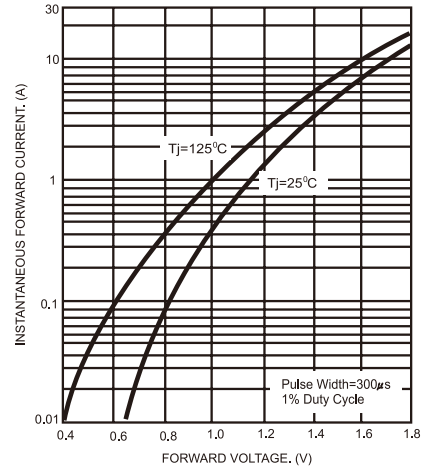


FIG.4- TYPICAL JUNCTION CAPACITANCE

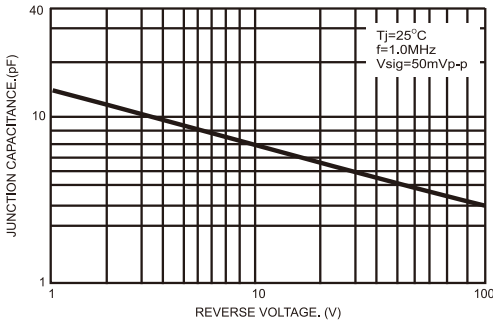
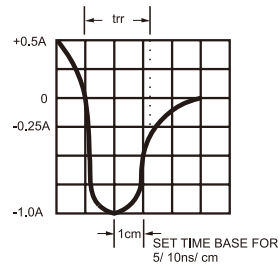
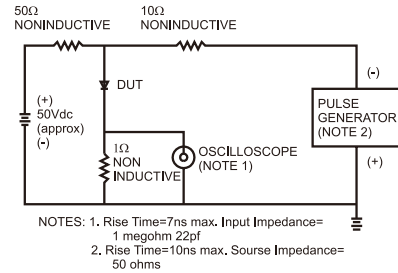


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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