



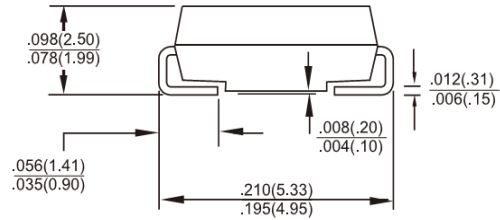
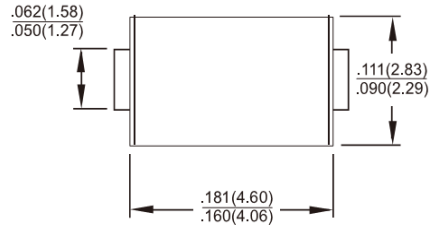
## RS1A - RS1M

### 1.0 AMP. Surface Mount Fast Recovery Rectifiers

#### SMA/DO-214AC

### Features

- ✧ 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



### Mechanical Data

- ✧ Case: 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

### Dimensions in inches and (millimeters)

#### Marking Diagram



- RS1X = 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	RS 1A	RS 1B	RS 1D	RS 1G	RS 1J	RS 1K	RS 1M	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 .375 (9.5mm) Lead Length @ $T_L=90^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	30							A
Maximum Instantaneous Forward Voltage (Note 1) @ 1 A	$V_F$	1.3							V
Maximum Reverse Current @ Rated VR $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	$I_R$	5 50							uA
Maximum Reverse Recovery Time (Note 2)	$T_{rr}$	150			250	500		nS	
Typical Junction Capacitance (Note 3)	$C_j$	10							pF
Typical Thermal Resistance	$R_{\theta JA}$ $R_{\theta JC}$	105 32							$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	- 55 to + 150							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 55 to + 150							$^\circ\text{C}$

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 (RS1A THRU RS1M)

FIG. 1 FORWARD CURRENT DERATING CURVE

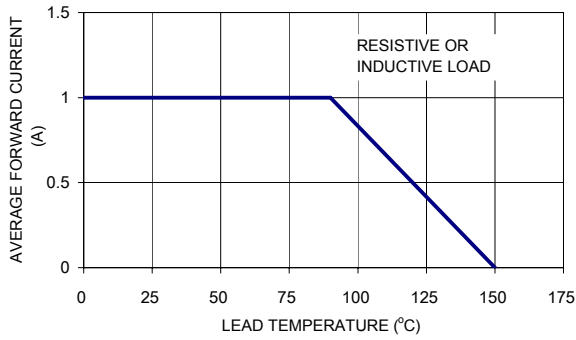


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

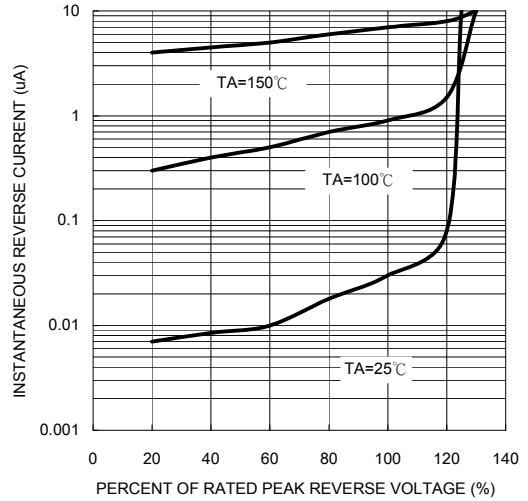


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

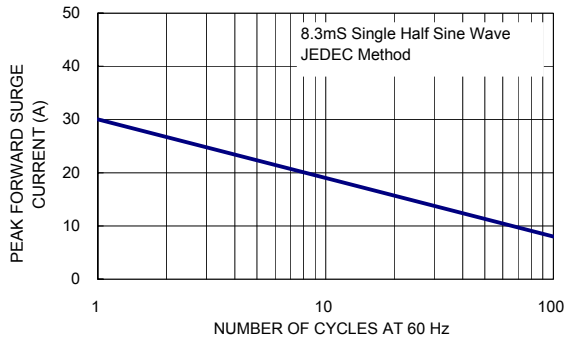


FIG. 5 TYPICAL FORWARD CHARACTERISTICS

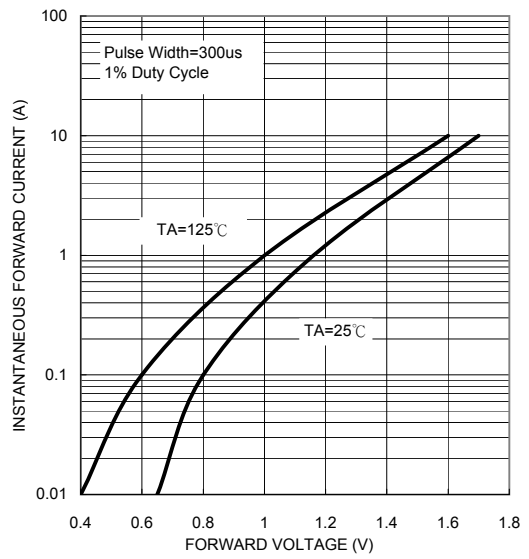


FIG. 4 TYPICAL JUNCTION CAPACITANCE

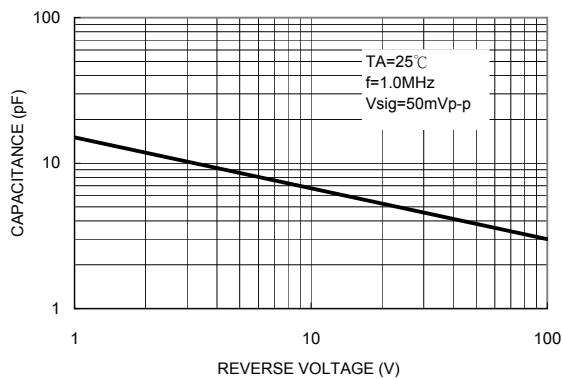


FIG. 6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

