



# RS1A~RS1M

## Surface Mount Fast Recovery Rectifiers

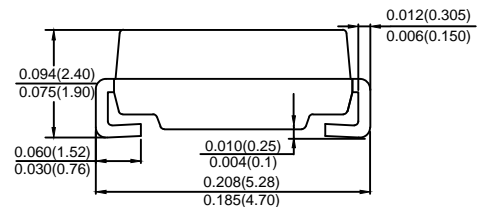
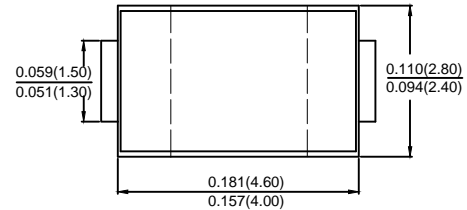
### Features

- Low profile space
- Ideal for automated placement
- Glass passivated chip junctions
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering:  
260°C/10 seconds at terminals
- Component in accordance to  
RoHS 2002/95/1 and WEEE 2002/96/EC

### Mechanical Date

- **Case:** JEDEC DO-214AC (SMA) molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per J-STD-002B and JESD22-B102D
- **Polarity:** Laser band denotes cathode end

### SMA/DO-214AC



Dimensions in inches and (millimeters)

### Maximum Ratings & Thermal Characteristics

Rating at 25°C ambient temperature unless otherwise specified  
Single phase, half wave, 60Hz, resistive or inductive load  
For capacitive load derate current by 20%

Type Number	SYMBOL	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	Unit
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
Average Rectified Output Current @ $T_L = 100^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30							A
Rating for fusing ( $t < 8.3\text{ms}$ )	$I^2 t$	3.74							$\text{A}^2 \text{s}$
Forward Voltage @ $I_F = 1.0\text{A}$	$V_{FM}$	1.3							V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$	$I_R$	5.0							uA
At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$		200							
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	150				250	500		ns
Typical Junction Capacitance (Note 2)	$C_J$	15							pF
Typical Thermal Resistance Junction to Ambient (Note 3)	$R_{\theta JA}$	75							$^\circ\text{C/W}$
	$R_{\theta JL}$	32							
Operating Temperature Range	$T_J$	-55 to +150							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150							$^\circ\text{C}$

Note: 1. Reverse Recovery Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .  
2. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C  
3. 8.0mm<sup>2</sup> (.013mm thick) land areas.



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### Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

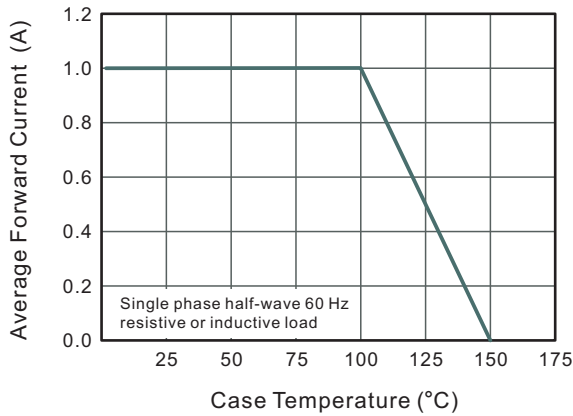


Fig.2 Typical Reverse Characteristics

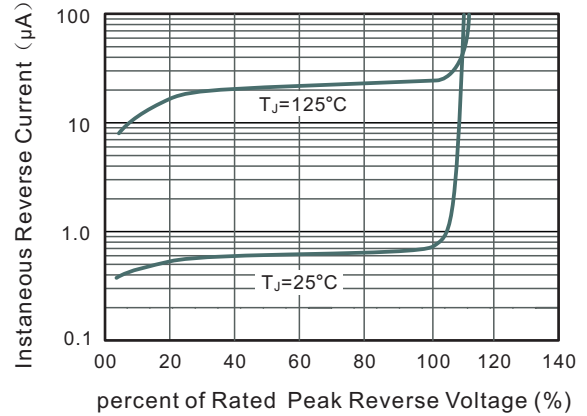


Fig.3 Typical Instantaneous Forward Characteristics

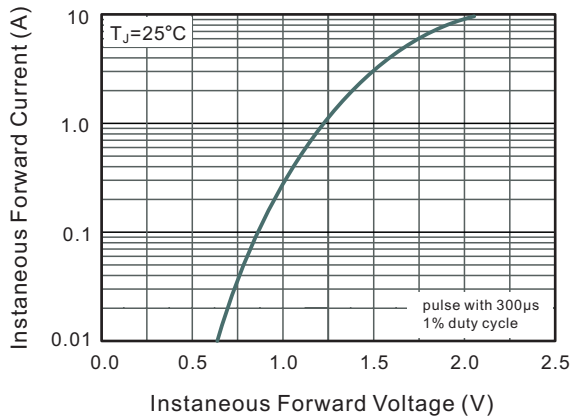


Fig.4 Typical Junction Capacitance

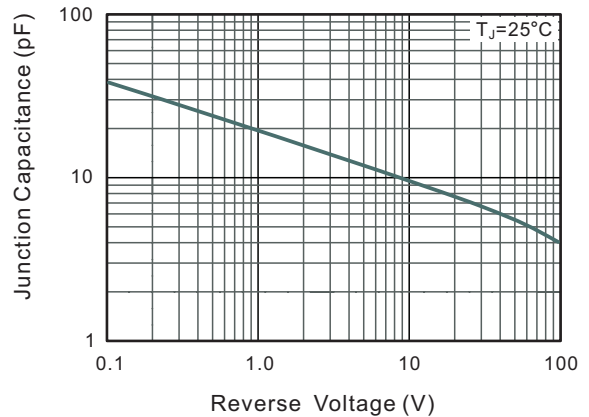
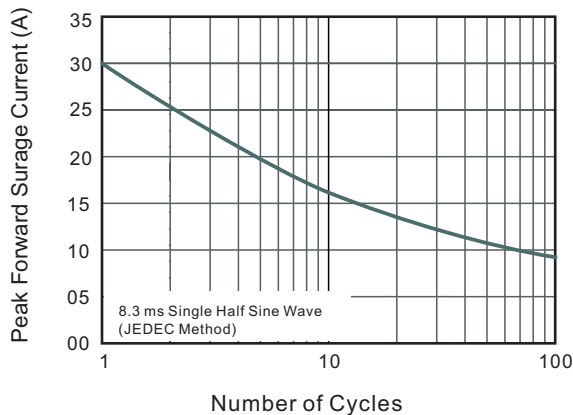
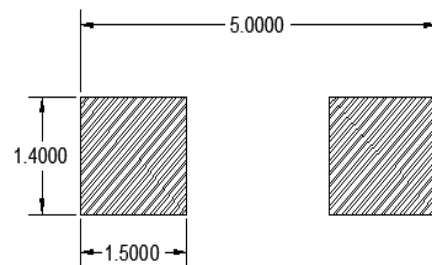


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



SMA PAD LAYOUT



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