

# Fast Recovery Power Diodes



## RS1 Series



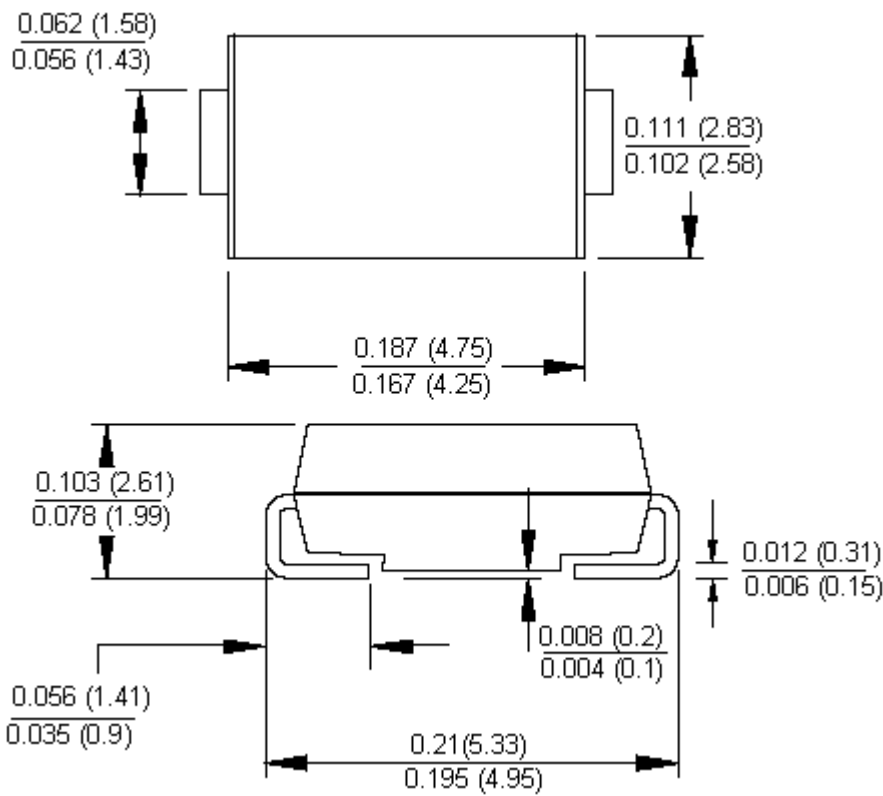
### Features :

- For surface mounted application
- Glass passivated junction chip
- Built-in strain relief, ideal for automated placement
- Fast switching for high efficiency
- High temperature soldering : 250°C / 10 seconds at terminals

### Mechanical Data :

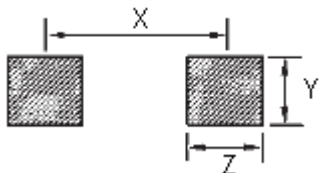
Cases : Moulded plastic  
 Terminals : Solder plated  
 Polarity : Indicated by cathode band

### SMA / DO-214 AC



Dimensions : Millimetres

### Foot Print



### Dimensions

Length	Width	Depth	X	Y	Z
5.33	2.83	2.61	4.1	1.7	1.8

Dimensions : Millimetres

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### 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	RS1A	RS1B	RS1D	RS1G	RS1J	Unit
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	V
Maximum RMS Voltage	35	70	140	280	420	
Maximum DC Blocking Voltage	50	100	200	400	600	
Maximum Average Forward Rectified Current See Figure 1 at $T_L = 90^\circ\text{C}$	1					A
Peak Forward Surge Current, 8.3 ms Single Half Sinewave Superimposed on Rated Load (JEDEC method)	30					
Maximum Instantaneous Forward Voltage at 1 A	1.3					V
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$	5 50					$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	150				250	nS
Typical Junction Capacitance (Note 2)	10					pF
Typical Thermal Resistance (Note 3) $R_{\theta JA}$ $R_{\theta JL}$	105 32					$^\circ\text{C} / \text{W}$
Operating Temperature Range $T_J$	-55 to +150					$^\circ\text{C}$
Storage Temperature Range $T_{STG}$						

#### Notes :

- Reverse Recovery Test Conditions :  $I_F = 0.5 \text{ A}$ ,  $I_R = 1 \text{ A}$ ,  $I_{RR} = 0.25 \text{ A}$
- Measured at 1 MHz and Applied  $V_R = 4 \text{ Volts}$
- Thermal Resistance from Junction to Ambient and from Junction to Lead Mounted on PCB with  $0.2 \times 0.2$  inches ( $5 \times 5 \text{ mm}$ ) Copper Pad Areas

### Ratings and Characteristic Curves

Figure 1 Maximum Forward Current Derating Curve

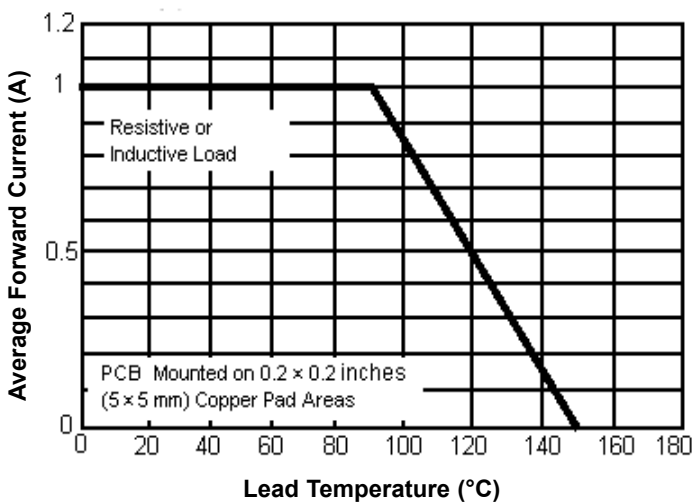
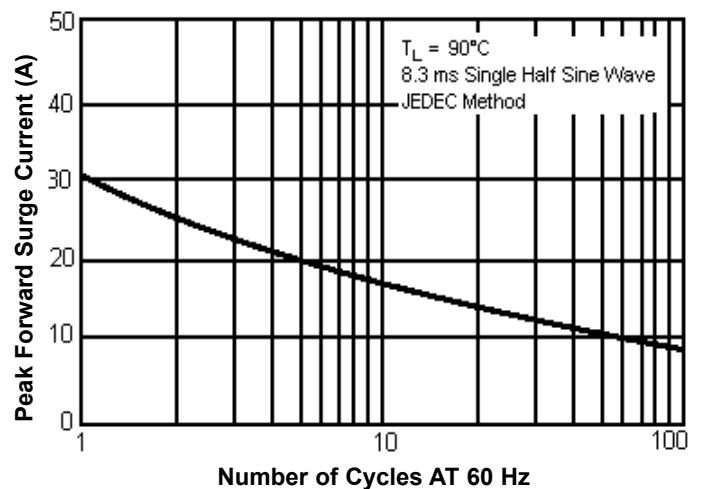


Figure 2 Maximum Non-Repetitive Forward Surge Current



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Figure 3 Typical Instantaneous Forward Characteristics Per Leg

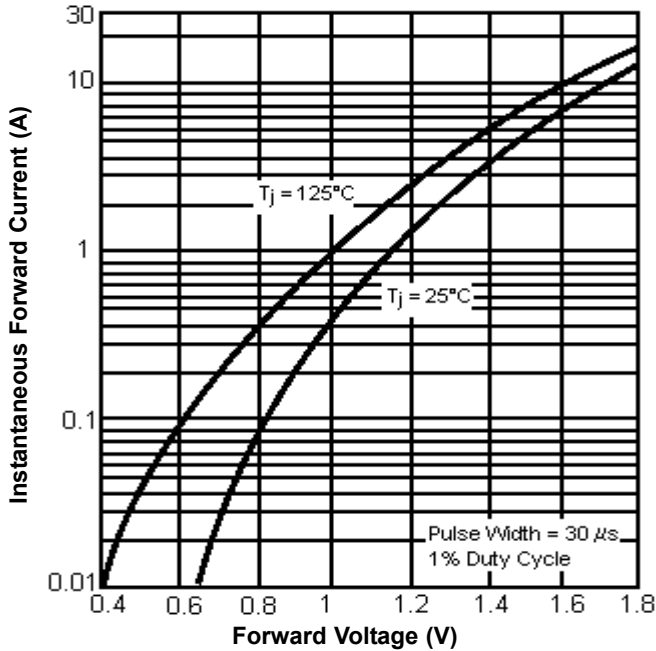


Figure 4 Typical Reverse Characteristics

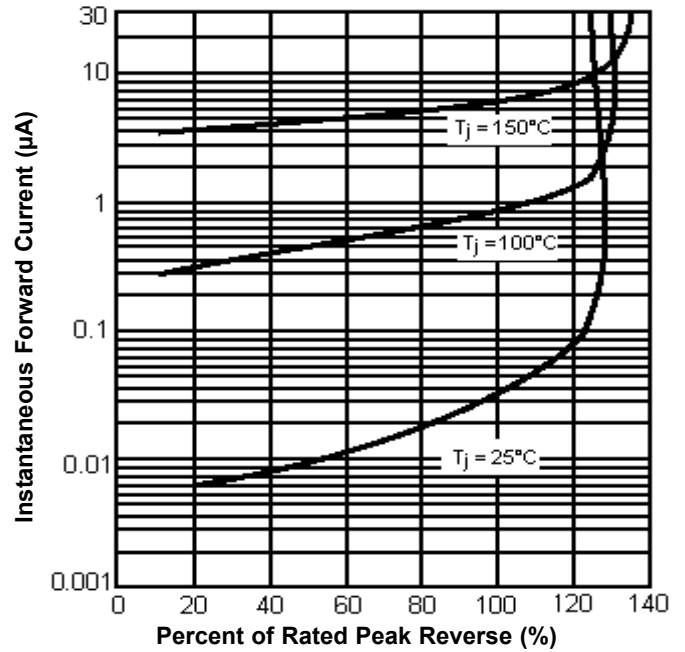
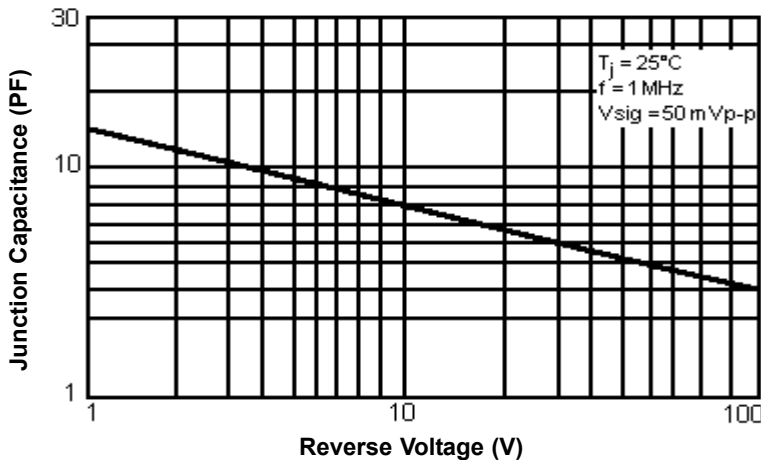


Figure 5 Typical Junction Capacitance



### Specification Table

$I_F$ (av) (A)	$V_{RRM}$ (V)	$I_{FSM}$ (A)	$t_{rr}$ maximum (nS)	$V_F$ (V) at $I_F = 1$ (A)	Package	Part Number
1	50	30	150	1.3	DO -214 AC (SMA)	RS1A
	100					RS1B
	200					RS1D
	400					RS1G
	600		250			RS1J

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