

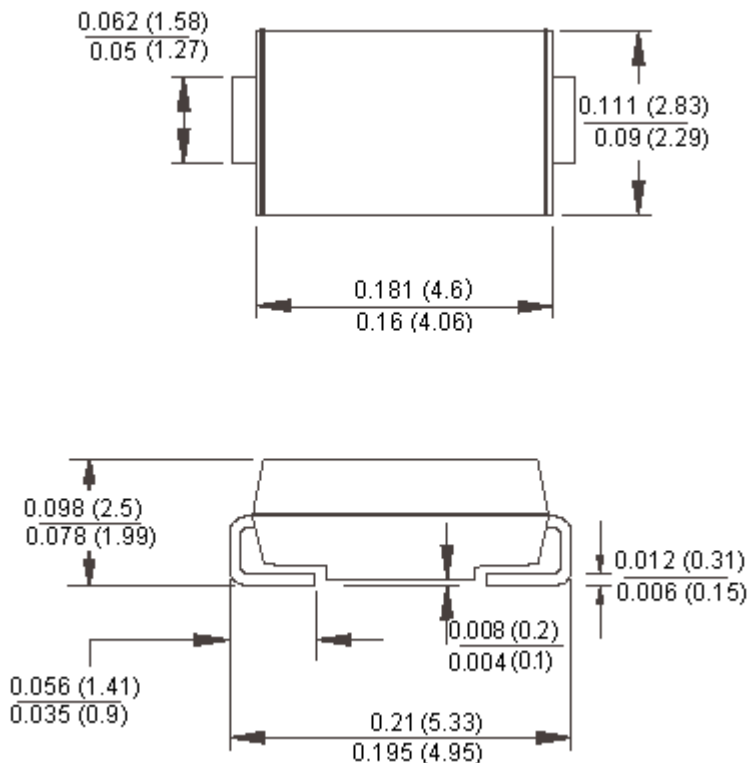


## Features:

- For surface mounted application
- Glass passivated junction chip
- Built-in strain relief, ideal for automated placement
- Plastic material
- Fast switching for high efficiency
- High temperature soldering : 260°C / 10 seconds at terminals



## SMC/DO-214AC



Dimensions : Inches (Millimetres)

## Mechanical Data:

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

## 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	RS1K	RS1M	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	800	1,000	V
Maximum RMS Voltage	$V_{RMS}$	560	700	
Maximum DC Blocking Voltage	$V_{DC}$	800	1,000	
Maximum Average Forward Rectified Current at $T_L = 90^\circ\text{C}$	$I_{(AV)}$	1		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	30		
Maximum Instantaneous Forward Voltage at 1 A	$V_F$	1.3		V
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 125^\circ\text{C}$	$I_R$	5 50		$\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	250	500	nS
Typical Junction Capacitance (Note 2)	$C_j$	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	$T_{STG}$			

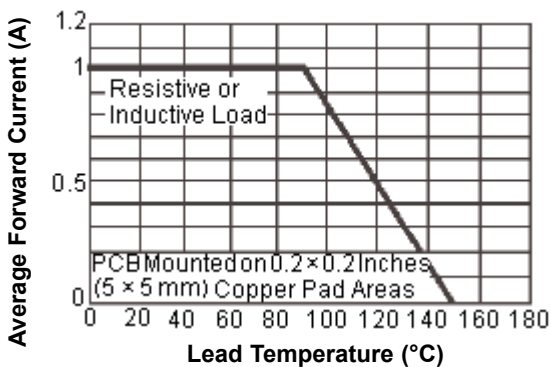
Notes : 1. Reverse Recovery Test Conditions :  $I_F = 0.5 \text{ A}$ ,  $I_R = 1 \text{ A}$ ,  $I_{RR} = 0.25 \text{ A}$

2. Measured at 1 MHz and Applied  $V_R = 4 \text{ V}$

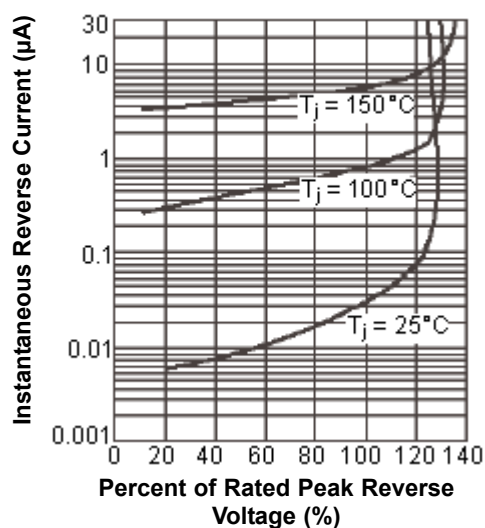
3. Thermal Resistance from Junction to Ambient and Junction to Lead Mounted on PCB with  $0.2 \times 0.2$  inches ( $5 \times 5 \text{ mm}$ ) Copper Pad Areas

## Ratings and Characteristic Curves (RS1K, RS1M)

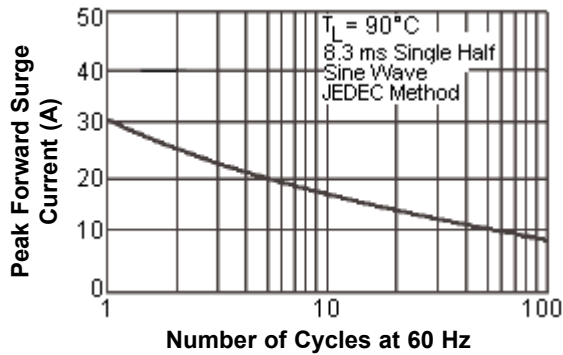
Maximum Forward Current Derating Curve



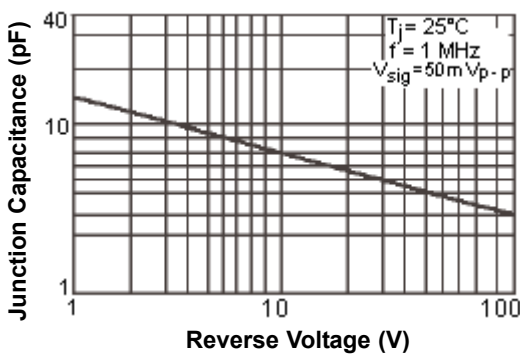
Typical Reverse Characteristics



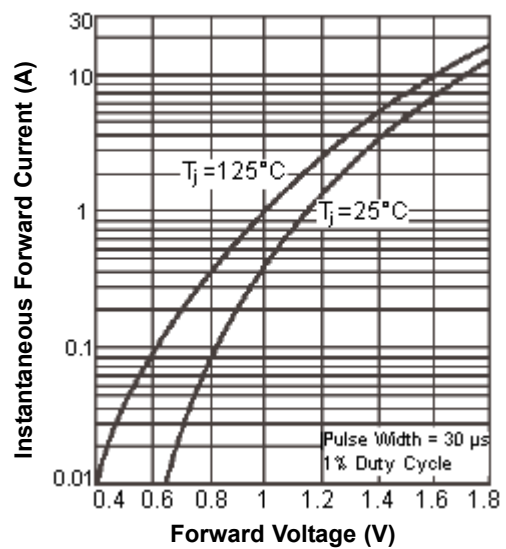
### Maximum Non-Repetitive Peak Forward Surge Current



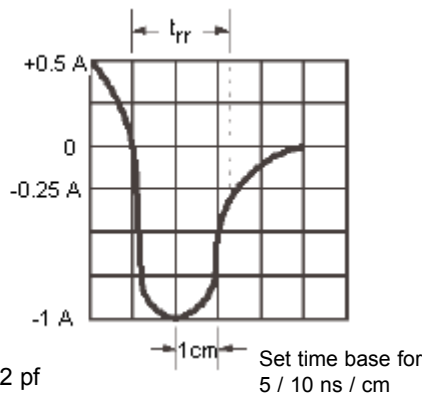
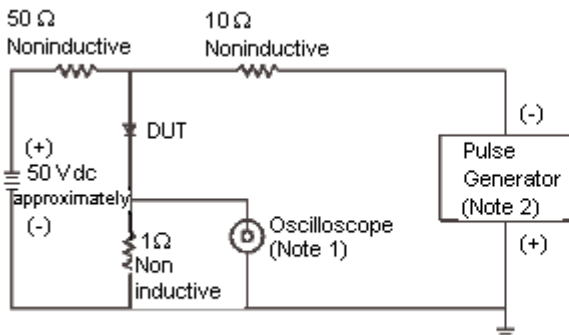
### Typical Junction Capacitance



### Typical Instantaneous Forward Characteristics Per Leg



### Reverse Recovery Time Characteristic and Test Circuit Diagram



**Note :**

1. Rise Time = 7 ns Maximum Input Impedance = 1 mΩ 22 pf
2. Rise Time = 10 ns Maximum Source Impedance = 50 Ω

### Part Number Table

Description	Part Number
Diode, Fast, 1 A, 800 V	RS1K
Diode, Fast, 1 A, 1,000 V	RS1M

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