

# RS1A - RS1M

# SURFACE MOUNT FAST SWITCHING RECTIFIERS

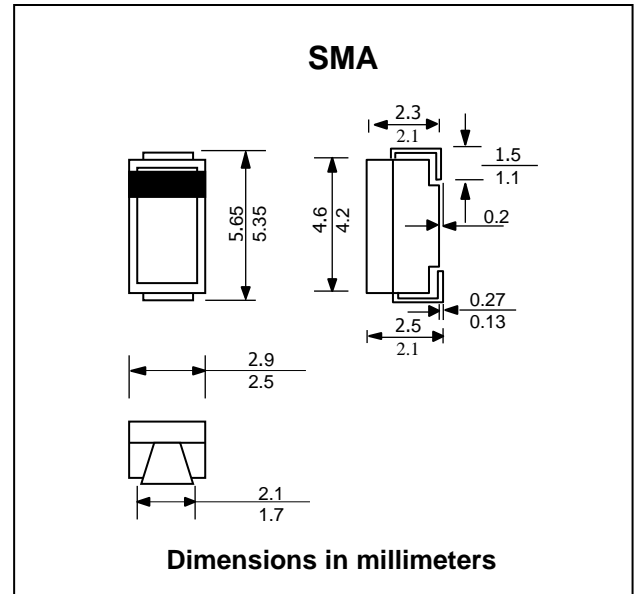
**PRV : 50 - 1000 Volts**  
**Io : 1.0 Ampere**

### FEATURES :

- \* Glass passivated chip
- \* Low profile package
- \* High forward surge capability
- \* High reliability
- \* Low reverse current
- \* Fast switching for high efficiency
- \* Pb / RoHS Free

### MECHANICAL DATA :

- \* Case : SMA Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.060 gram (Approximately)



### 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%.

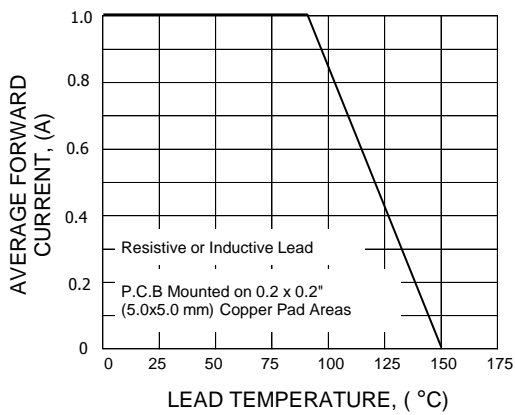
| RATING  | SYMBOL          | RS1A          | RS1B | RS1D | RS1G | RS1J | RS1K | RS1M | UNIT               |
|---|-----------------|---------------|------|------|------|------|------|------|--------------------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$       | 50            | 100  | 200  | 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                  |
| Maximum Average Forward Current at $T_L = 90\text{ }^\circ\text{C}$                                     | $I_{F(AV)}$     | 1.0           |      |      |      |      |      |      | A                  |
| Peak Forward Surge Current,<br>8.3ms Single half sine wave Superimposed<br>on rated load (JEDEC Method) | $I_{FSM}$       | 30            |      |      |      |      |      |      | A                  |
| Maximum Peak Forward Voltage at $I_F = 1.0\text{ A}$  | $V_F$           | 1.3           |      |      |      |      |      |      | V                  |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage  | $I_R$           | 5             |      |      |      |      |      |      | $\mu\text{A}$      |
|   | $I_{R(H)}$      | 50            |      |      |      |      |      |      | $\mu\text{A}$      |
| Maximum Reverse Recovery Time (Note 1)  | $T_{rr}$        | 150           |      |      |      | 250  | 500  |      | ns                 |
| Typical Junction Capacitance (Note 2)   | $C_J$           | 10            |      |      |      |      |      |      | pF                 |
| Thermal Resistance ( Junction to Ambient )  | $R_{\theta JA}$ | 105           |      |      |      |      |      |      | $^\circ\text{C/W}$ |
| Thermal Resistance ( Junction to Lead )   | $R_{\theta JL}$ | 32            |      |      |      |      |      |      | $^\circ\text{C/W}$ |
| Operating Junction and Storage Temperature Range  | $T_J, T_{STG}$  | - 55 to + 150 |      |      |      |      |      |      | $^\circ\text{C}$   |

#### Notes :

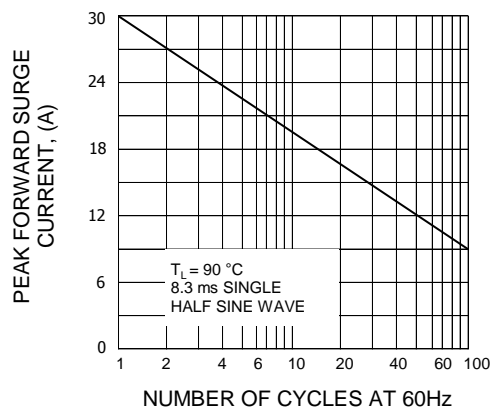
- (1) Reverse Recovery Test Conditions :  $I_F = 0.5\text{ A}$ ,  $I_R = 1.0\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0  $V_{DC}$

**RATING AND CHARACTERISTIC CURVES ( RS1A - RS1M )**

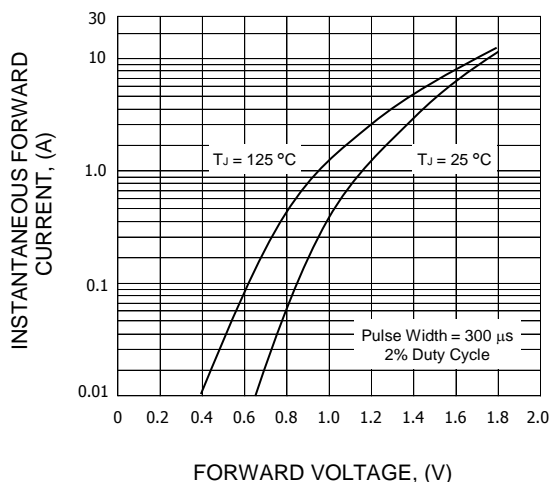
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**

