



# RS2A~RS2M

## Surface Mount Fast Recovery Rectifiers

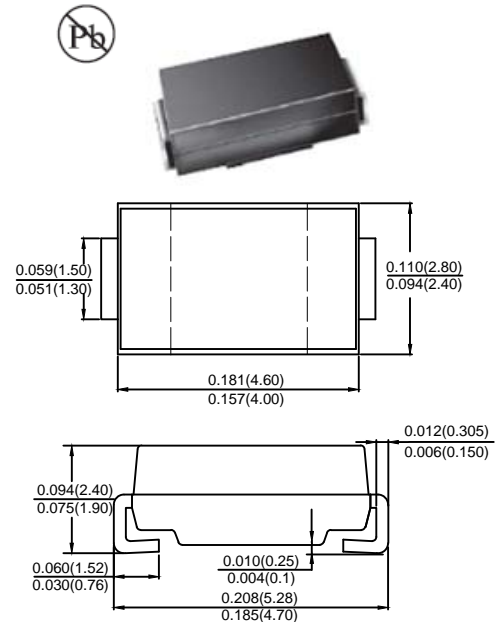
### Features

- 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

### SM/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          | RS2A        | RS2B | RS2D | RS2G | RS2J | RS2K | RS2M | 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<br>@ $T_L = 100^\circ\text{C}$                                  | $I_{F(AV)}$     | 2.0         |      |      |      |      |      |      | A                     |
| Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$       | 50          |      |      |      |      |      |      | A                     |
| Rating for fusing ( $t < 8.3\text{ms}$ )   | $I^2 t$         | 14.94       |      |      |      |      |      |      | $\text{A}^2 \text{s}$ |
| Forward Voltage @ $I_F = 2.0\text{A}$  | $V_{FM}$        | 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)  | $C_J$           | 22          |      |      |      |      |      |      | pF                    |
| Typical Thermal Resistance Junction to Ambient (Note 3)  | $R_{\theta JA}$ | 65          |      |      |      |      |      |      | $^\circ\text{C/W}$    |
|  | $R_{\theta JL}$ | 20          |      |      |      |      |      |      |                       |
| 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

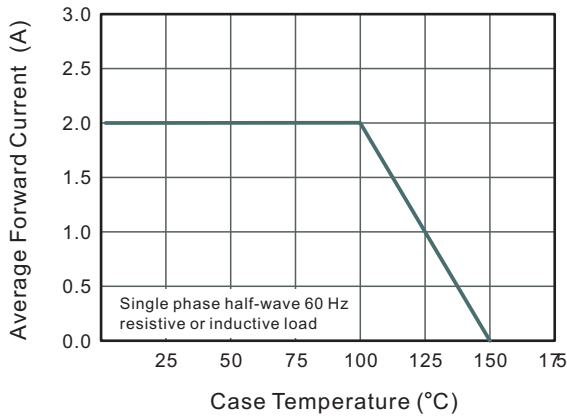


Fig.2 Typical Reverse Characteristics

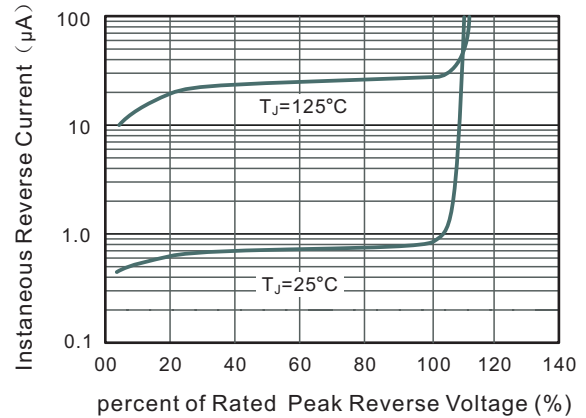


Fig.3 Typical Instantaneous Forward Characteristics

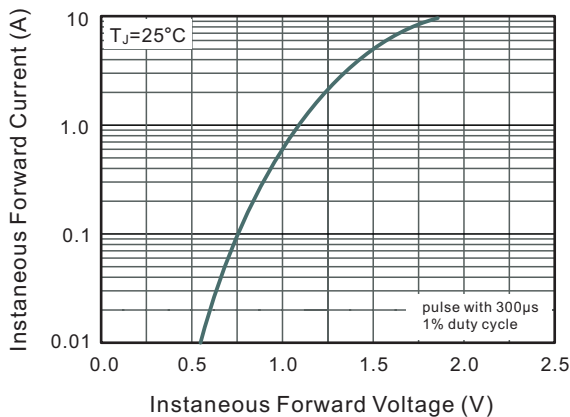


Fig.4 Typical Junction Capacitance

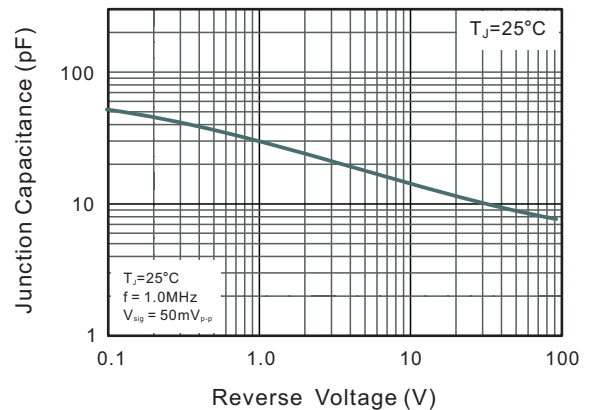
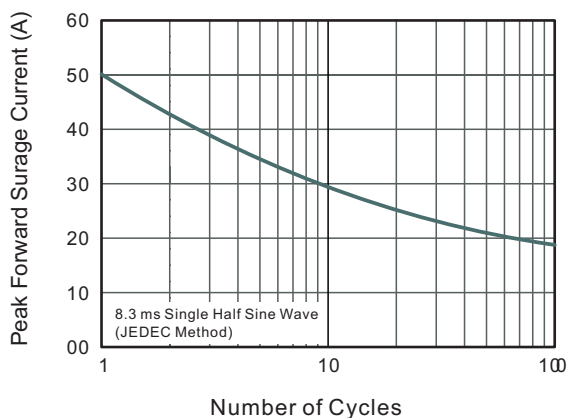
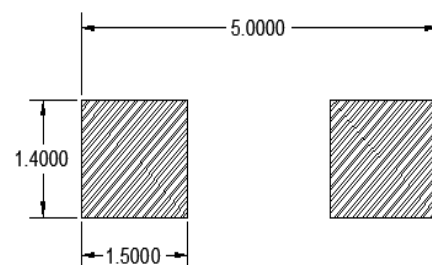


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



SMA PAD LAYOUT



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