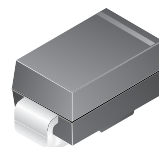


RS1A - RS1M

Fast Rectifiers

Features

- Glass passivated junction.
- For surface mounted applications.
- Built in strain relief, ideal for automated placement.
- UL certified with ULcertificate # E326243.



SMA/DO-214AC
COLOR BAND DENOTES CATHODE

Absolute Maximum Ratings* $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | | | | | | | Units |
|-------------|--|-------------|-----|-----|-----|-----|-----|------|------------------|
| | | 1A | 1B | 1D | 1G | 1J | 1K | 1M | |
| V_{RRM} | Maximum Repetitive Reverse Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current @ $T_A = 100^\circ\text{C}$ | 1.0 | | | | | | | A |
| I_{FSM} | Non-Repetitive Peak Forward Surge Current 8.3ms Single Half-Sine-Wave | 30 | | | | | | | A |
| T_{STG} | Storage Temperature Range | -55 to +150 | | | | | | | $^\circ\text{C}$ |
| T_J | Operating Junction Temperature | -55 to +150 | | | | | | | $^\circ\text{C}$ |

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Thermal Characteristics

| Symbol | Parameter | Value | Units |
|-----------------|--|-------|---------------------------|
| P_D | Power Dissipation | 1.19 | W |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient* | 105 | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead* | 32 | $^\circ\text{C}/\text{W}$ |

* Device mounted on FR-4 PCB 0.013 mm.

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | | | | | | | Units |
|----------|--|-------|----|----|----|-----|-----|----|--------------------------------|
| | | 1A | 1B | 1D | 1G | 1J | 1K | 1M | |
| V_F | Forward Voltage @ 1.0A | 1.3 | | | | | | | V |
| t_{rr} | Reverse Recovery Time $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$ | 150 | | | | 250 | 500 | | ns |
| I_R | Reverse Current @ rated V_R $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$ | 5.0 | | | | 50 | | | μA μA |
| C_T | Total Capacitance $V_R=4.0\text{V}, f=1.0\text{MHz}$ | 10 | | | | | | | pF |

Typical Performance Characteristics

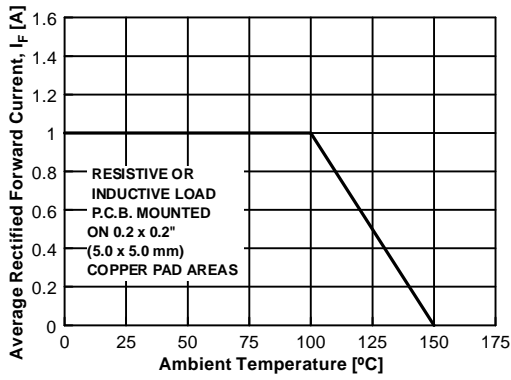


Figure 1. Forward Current Derating Curve

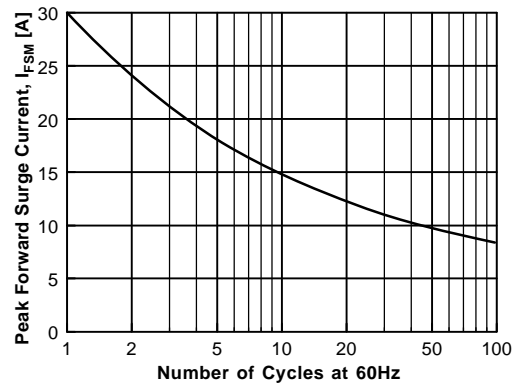


Figure 2. Non-Repetitive Surge Current

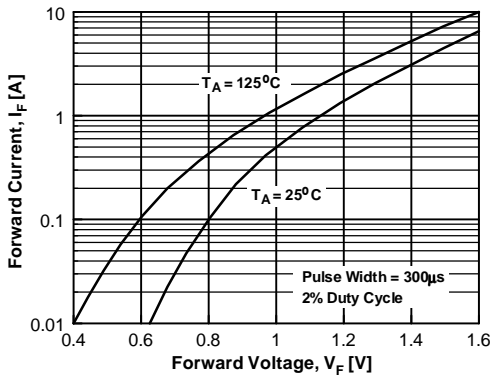


Figure 3. Forward Voltage Characteristics

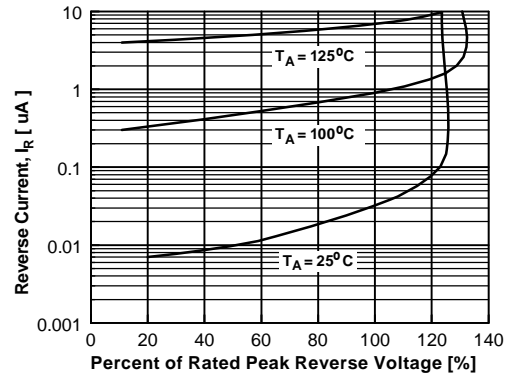


Figure 4. Reverse Current vs Reverse Voltage

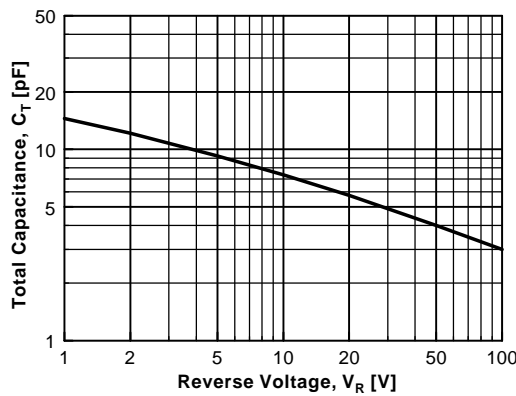







Figure 5. Total Capacitance



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