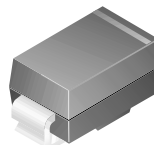




## RGF1A - RGF1M

### Features

- Glass passivated junction.
- For surface mounted application.
- Low forward voltage drop.
- High current capability.
- Easy pick and place.
- High surge current capability.



**SMA/DO-214AC**  
COLOR BAND DENOTES CATHODE

### Fast Rectifiers

#### 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,<br>@ $T_A = 125^\circ\text{C}$         | 1.0         |     |     |     |     |     |      | A                |
| $I_{FSM}$   | Non-repetitive Peak Forward Surge Current<br>8.3 ms Single Half-Sine-Wave | 30          |     |     |     |     |     |      | A                |
| $T_{stg}$   | Storage Temperature Range                                                 | -65 to +175 |     |     |     |     |     |      | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature                                            | -65 to +175 |     |     |     |     |     |      | $^\circ\text{C}$ |

\*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                        | 1.76  | W                  |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient* | 85    | $^\circ\text{C/W}$ |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead*    | 28    | $^\circ\text{C/W}$ |

\*Device mounted on FR-4 PCB 0.013 mm.

### Electrical Characteristics

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

| Symbol          | Parameter                                                                                         | Device     |    |    |    |     |     |    | Units    |
|-----------------|---------------------------------------------------------------------------------------------------|------------|----|----|----|-----|-----|----|----------|
|                 |                                                                                                   | 1A         | 1B | 1D | 1G | 1J  | 1K  | 1M |          |
| V <sub>F</sub>  | Forward Voltage @ 1.0 A                                                                           | 1.3        |    |    |    |     |     |    | V        |
| t <sub>rr</sub> | Reverse Recovery Time<br>I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A | 150        |    |    |    | 250 | 500 |    | ns       |
| I <sub>R</sub>  | Reverse Current @ rated V <sub>R</sub><br>T <sub>A</sub> = 25°C<br>T <sub>A</sub> = 125°C         | 5.0<br>100 |    |    |    |     |     |    | μA<br>μA |
| C <sub>T</sub>  | Total Capacitance<br>V <sub>R</sub> = 4.0 V, f = 1.0 MHz                                          | 8.5        |    |    |    |     |     |    | pF       |

Typical Characteristics

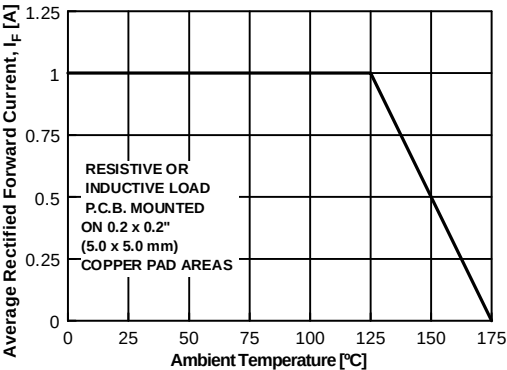


Figure 1. Forward Current Derating Curve

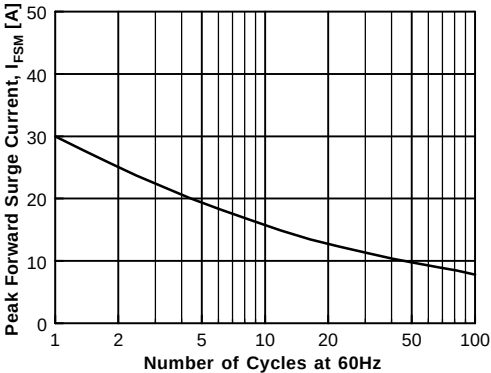


Figure 2. Non-Repetitive Surge Current

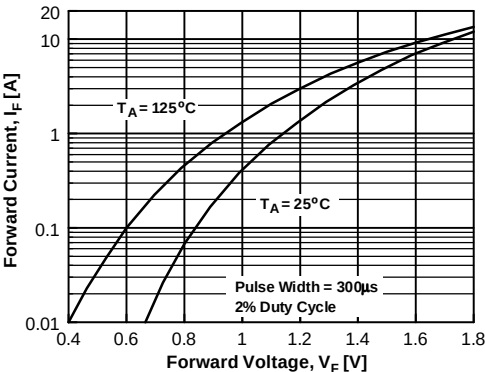


Figure 3. Forward Voltage Characteristics

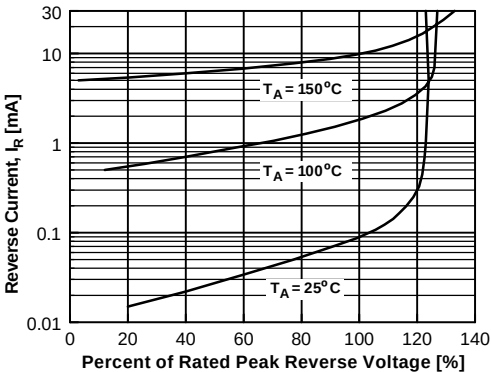


Figure 4. Reverse Current vs Reverse Voltage

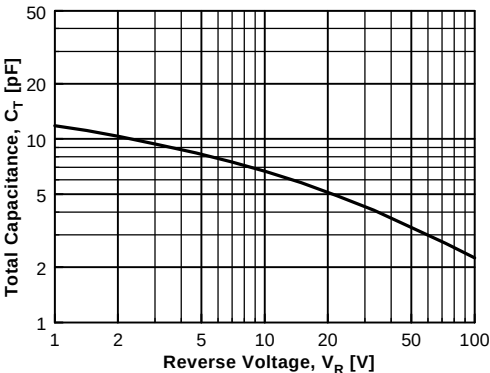


Figure 5. Total Capacitance

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