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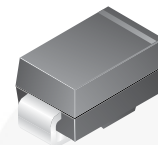
July 2016



# RGF1A - RGF1M Fast Rectifiers

## 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

## Ordering Information

Part Number	Top Mark	Package	Packing Method
RGF1A	RGF1A	DO-214AC (SMA)	Tape and Reel
RGF1B	RGF1B	DO-214AC (SMA)	Tape and Reel
RGF1D	RGF1D	DO-214AC (SMA)	Tape and Reel
RGF1G	RGF1G	DO-214AC (SMA)	Tape and Reel
RGF1J	RGF1J	DO-214AC (SMA)	Tape and Reel
RGF1K	RGF1K	DO-214AC (SMA)	Tape and Reel
RGF1M	RGF1M	DO-214AC (SMA)	Tape and Reel

## Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value							Unit
		RGF1 A	RGF1 B	RGF1 D	RGF1 G	RGF1 J	RGF1 K	RGF1 M	
$V_{RRM}$	Maximum Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
$I_{F(AV)}$	Average Rectified Forward Current at $T_L = 125^\circ\text{C}$	1.0							A
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current: 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							$^\circ\text{C}$

### Thermal Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$P_D$	Power Dissipation	1.76	W
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient <sup>(1)</sup>	85	$^\circ\text{C}/\text{W}$
$R_{\theta JL}$	Thermal Resistance, Junction-to-Lead <sup>(1)</sup>	28	$^\circ\text{C}/\text{W}$

**Note:**

1. Device mounted on FR-4 PCB 0.013 mm.

### Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Value						Unit
			RGF1 A	RGF1 B	RGF1 D	RGF1 G	RGF1 J	RGF1 K	
$V_F$	Forward Voltage	$I_F = 1.0 \text{ A}$	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 at Rated $V_R$	$T_A = 25^\circ\text{C}$	5.0						$\mu\text{A}$
		$T_A = 125^\circ\text{C}$	100						
$C_T$	Total Capacitance	$V_R = 4.0 \text{ V}, f = 1.0 \text{ MHz}$	8.5						pF

## Typical Performance Characteristics

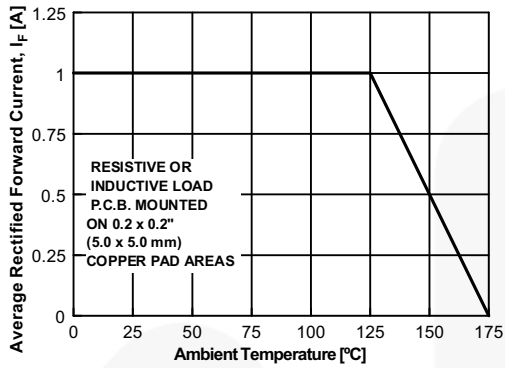


Figure 1. Forward Current Derating Curve

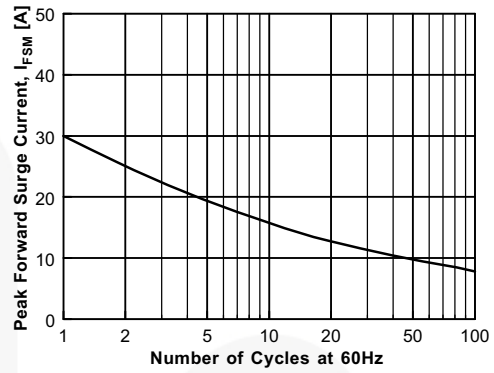


Figure 2. Non-Repetitive Surge Current

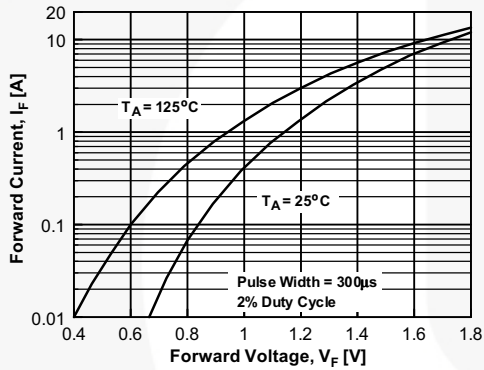


Figure 3. Forward Voltage Characteristics

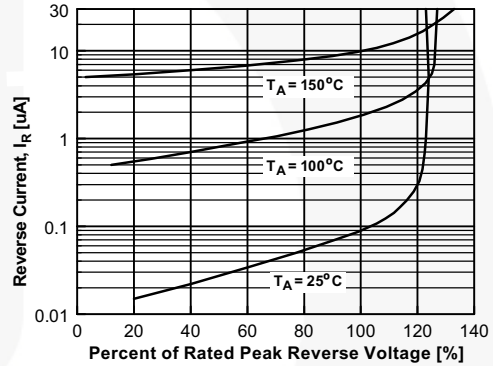


Figure 4. Reverse Current vs. Reverse Voltage

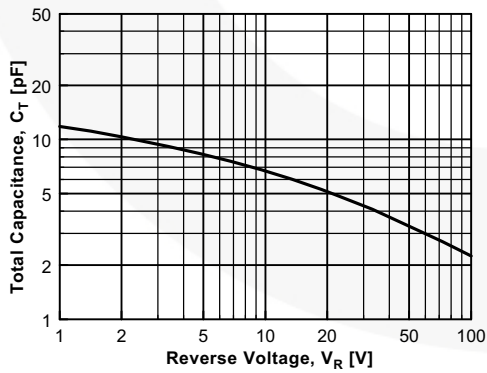
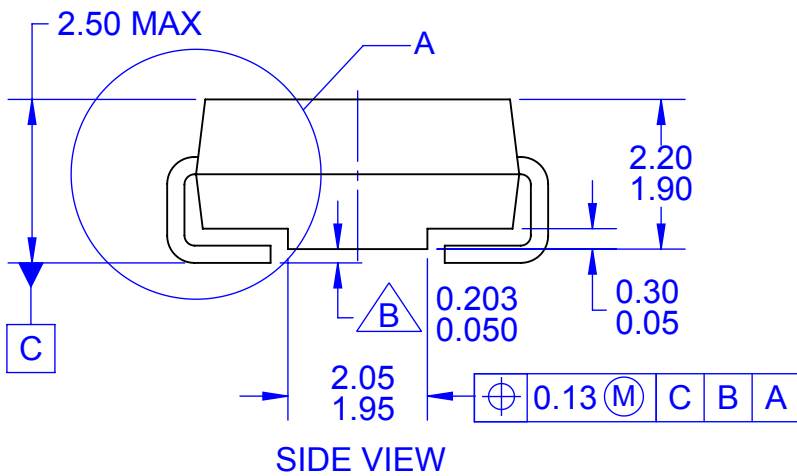
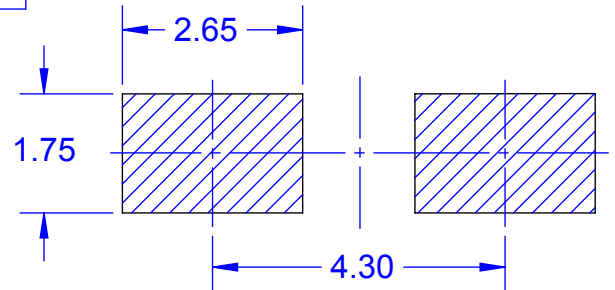
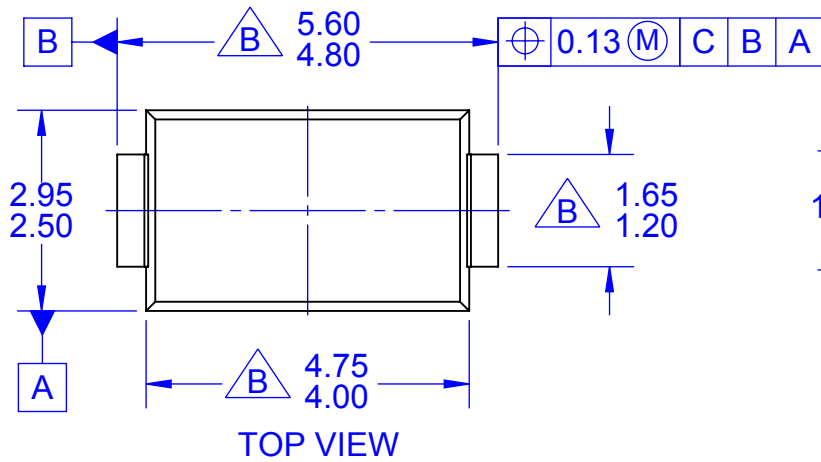
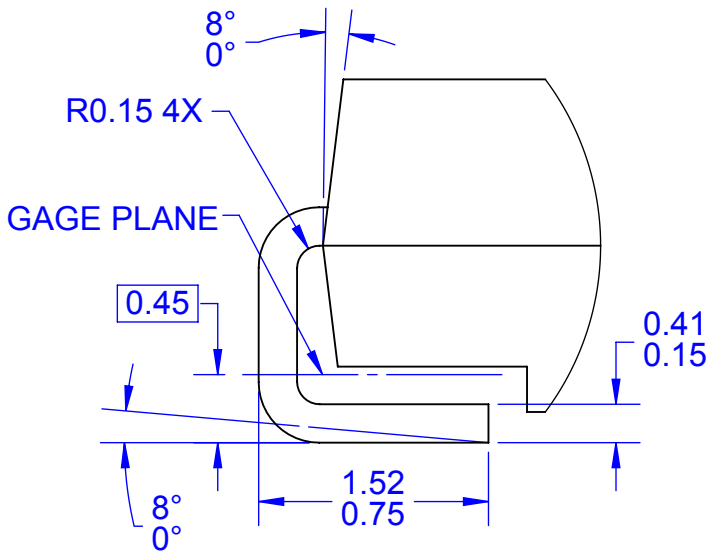


Figure 5. Total Capacitance



**NOTES:**

- A. EXCEPT WHERE NOTED, CONFORMS TO JEDEC DO214 VARIATION AC.
- B. DOES NOT COMPLY JEDEC STANDARD VALUE.
- C. ALL DIMENSIONS ARE IN MILLIMETERS.
- D. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
- E. DIMENSIONS AND TOLERANCE AS PER ASME Y14.5-2009.
- E. LAND PATTERN STD. DIOM5025X231M
- F. DRAWING FILENAME: MKT-DO214ACrev2



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