

Fast Rectifiers

RGF1A - RGF1M

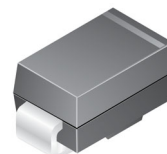
Features

- Glass Passivated Junction
- For Surface Mounted Applications
- Low Forward Voltage Drop
- High Current Capability
- Easy Pick and Place
- High Surge Current Capability
- NRV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb-Free and are RoHS Compliant



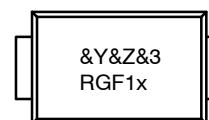
ON Semiconductor®

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**SMA
CASE 403AE**

MARKING DIAGRAM



&Y = ON Semiconductor Logo
&Z = Assembly Plant Code
&3 = Date Code (Year & Week)
RGF1x = Specific Device Code
x = A/B/D/G/J/K/M

ORDERING INFORMATION

Part Number	Top Mark	Package	Shipping†
RGF1A	RGF1A	SMA (Pb-Free)	7500 / Tape & Reel
NRVRGF1A			
RGF1B	RGF1B	SMA (Pb-Free)	7500 / Tape & Reel
NRVRGF1B			
RGF1D	RGF1D	SMA (Pb-Free)	7500 / Tape & Reel
NRVRGF1D			
RGF1G	RGF1G	SMA (Pb-Free)	7500 / Tape & Reel
NRVRGF1G			
RGF1J	RGF1J	SMA (Pb-Free)	7500 / Tape & Reel
NRVRGF1J			
RGF1K	RGF1K	SMA (Pb-Free)	7500 / Tape & Reel
NRVRGF1K			
RGF1M	RGF1M	SMA (Pb-Free)	7500 / Tape & Reel
NRVRGF1M			

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

RGF1A – RGF1M

SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value							Unit
		RGF1A	RGF1B	RGF1D	RGF1G	RGF1J	RGF1K	RGF1M	
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_J	Operating Junction Temperature	-65 to $+175$							$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-65 to $+175$							$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

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

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

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Value							Unit
			RGF1A	RGF1B	RGF1D	RGF1G	RGF1J	RGF1K	RGF1M	
V _F	Maximum Forward Voltage	I _F = 1.0 A	1.3							V
t _{rr}	Maximum Reverse Recovery Time	I _F = 0.5 A, I _R = 1.0 A, I _{RR} = 0.25 A	150				250	500		ns
I _R	Maximum Reverse Current at Rated V _R	T _A = 25°C	5.0							μA
		T _A = 125°C	100							
C _T	Typical Capacitance	V _R = 4.0 V, f = 1.0 MHz	8.5							pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

RGF1A – RGF1M

TYPICAL PERFORMANCE CHARACTERISTICS

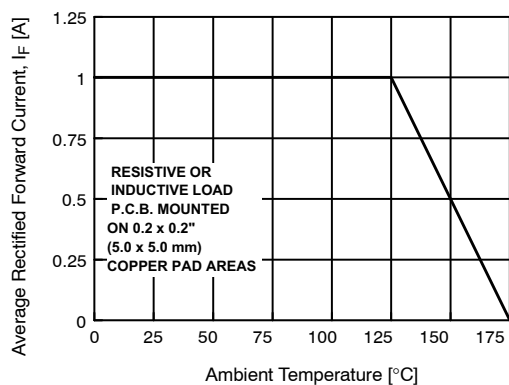


Figure 1. Forward Current Derating Curve

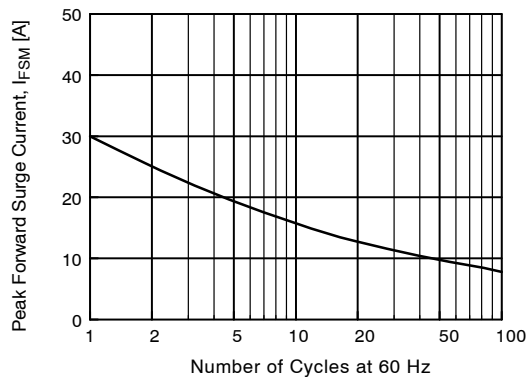


Figure 2. Non-Repetitive Surge Current

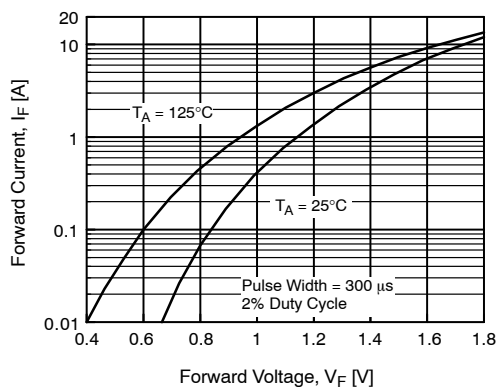


Figure 3. Forward Voltage Characteristics

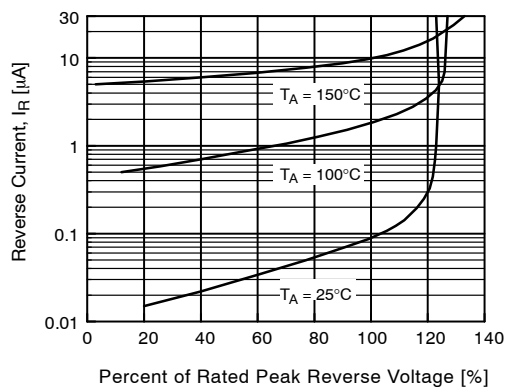


Figure 4. Reverse Current vs. Reverse Voltage

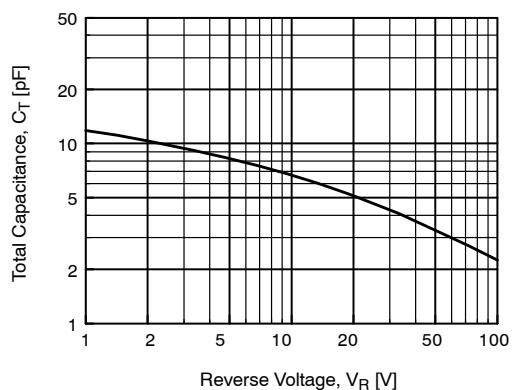
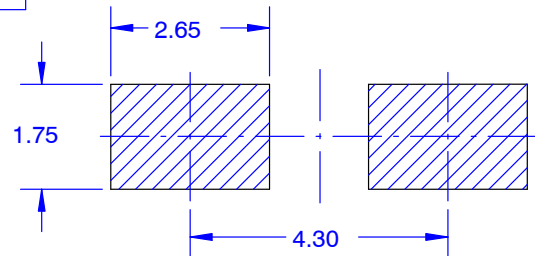
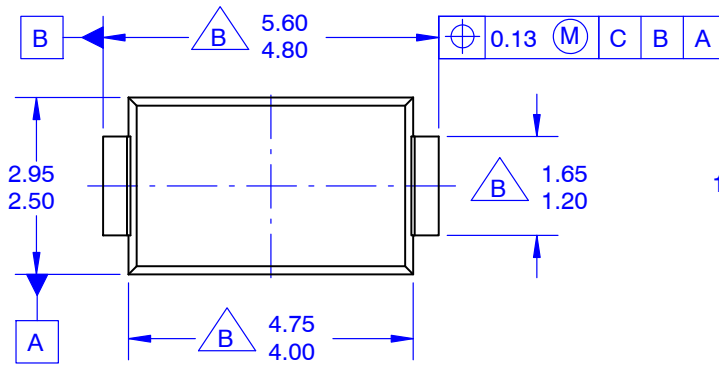


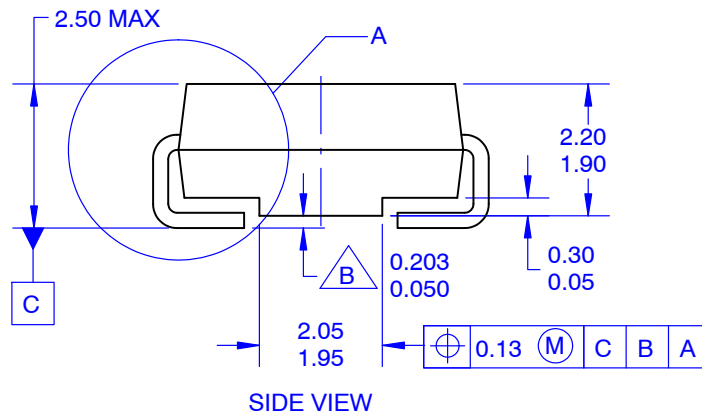
Figure 5. Total Capacitance

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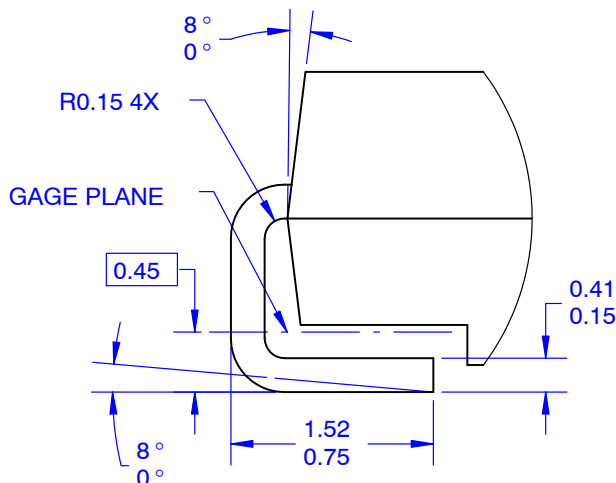


LAND PATTERN RECOMMENDATION



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



DETAIL A
SCALE 20 : 1

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