

Fast Rectifiers

RGF1A - RGF1M

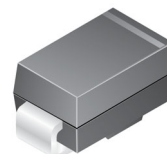
Features

- 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



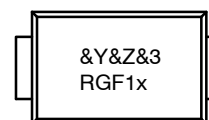
ON Semiconductor®

www.onsemi.com



**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°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°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 | | | | | | | °C |
| T _{STG} | Storage Temperature Range | -65 to +175 | | | | | | | °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°C unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|------------------|---|-------|------|
| P _D | Power Dissipation | 1.76 | W |
| R _{θJA} | Junction-to-Ambient Thermal Resistance (Note 1) | 85 | °C/W |
| R _{θJL} | Junction-to-Lead Thermal Resistance (Note 1) | 28 | °C/W |

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

ELECTRICAL CHARACTERISTICS (T_A = 25°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

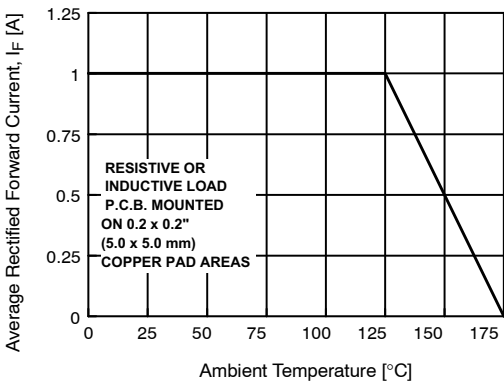


Figure 1. Forward Current Derating Curve

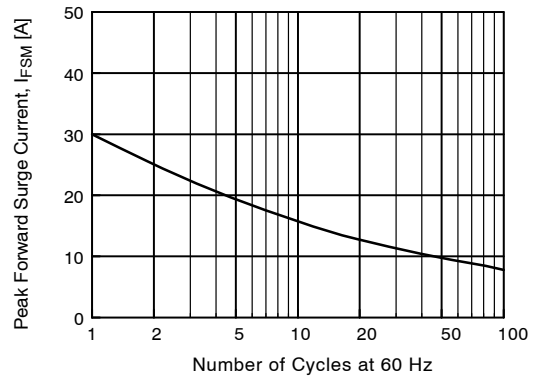


Figure 2. Non-Repetitive Surge Current

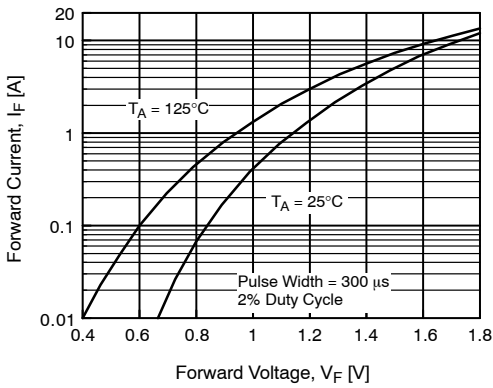


Figure 3. Forward Voltage Characteristics

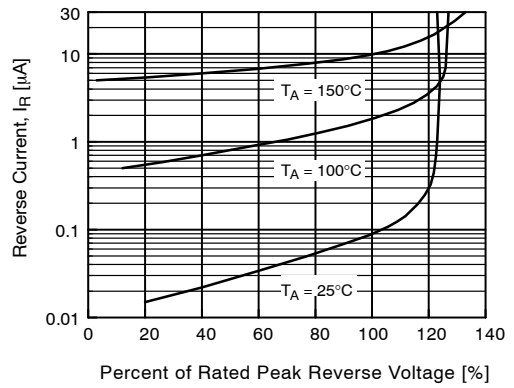


Figure 4. Reverse Current vs. Reverse Voltage

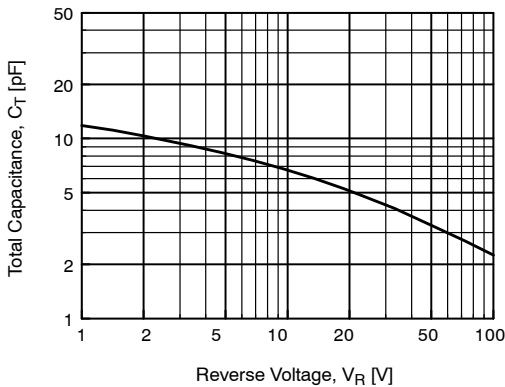
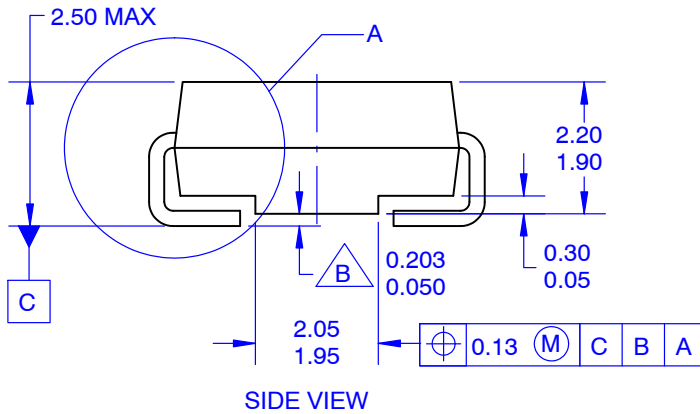
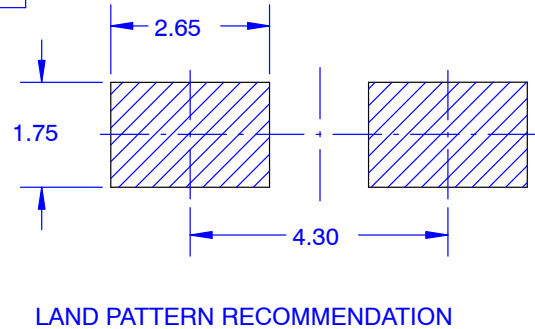
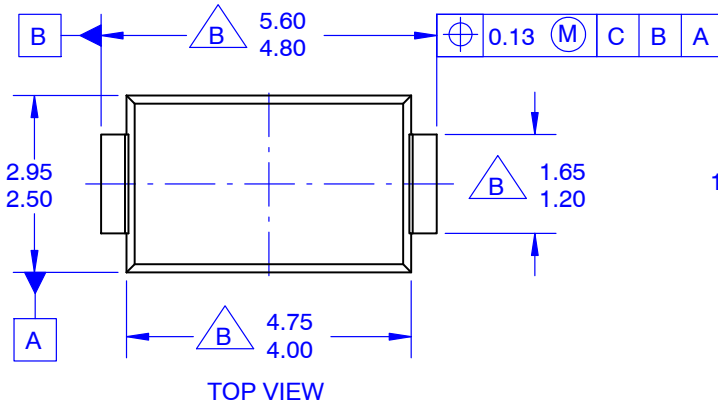


Figure 5. Total Capacitance

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

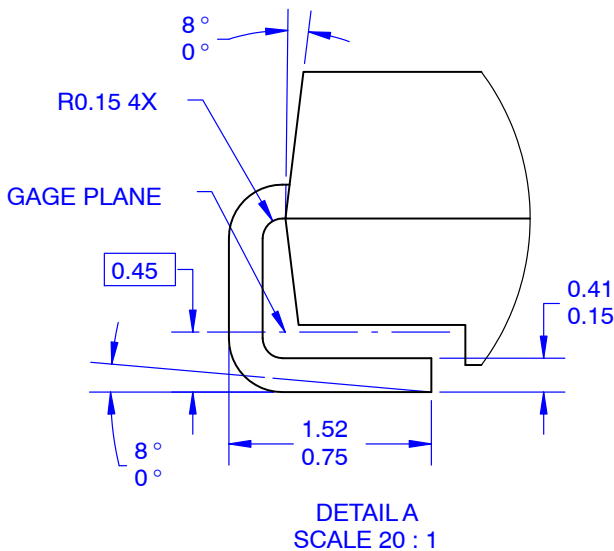
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NOTES:

- 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



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