

Fast Rectifiers

RS1A - RS1M

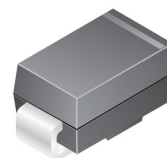
Features

- Glass–Passivated Junction
- For Surface Mounted Applications
- Built–in Strain Relief, Ideal for Automated Placement
- UL Certified: Certificate # E326243
- These Devices are Pb–Free and are RoHS Compliant

ORDERING INFORMATION

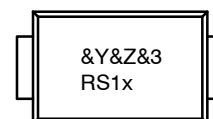
| Part Number | Marking | Package | Shipping [†] |
|-------------|---------|------------------|-----------------------|
| RS1A | RS1A | SMA (Pb–Free) | 7500 / Tape & Reel |
| RS1B | RS1B | | |
| RS1D | RS1D | | |
| RS1G | RS1G | | |
| RS1J | RS1J | | |
| RS1K | RS1K | | |
| RS1M | RS1M | | |

[†]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.



SMA
CASE 403AE

MARKING DIAGRAM



&Y = onsemi Logo
 &Z = Assembly Plant Code
 &3 = Date Code (Year & Week)
 RS1x = Specific Device Code
 x = A/B/D/G/J/K/M

RS1A – RS1M

SPECIFICATIONS

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

| Symbol | Parameter | Value | | | | | | | Units |
|-------------|---|-----------------|------|------|------|------|------|------|------------------|
| | | RS1A | RS1B | RS1D | RS1G | RS1J | RS1K | RS1M | |
| V_{RRM} | Maximum Repetitive Reverse Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current at $T_A = 100^\circ\text{C}$ | 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 | -55 to $+150$ | | | | | | | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature Range | -55 to $+150$ | | | | | | | $^\circ\text{C}$ |

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 | 1.19 | W |
| $R_{\theta JA}$ | Junction-to-Ambient Thermal Resistance (Note 1) | 105 | $^\circ\text{C/W}$ |
| $R_{\theta JL}$ | Junction-to-Lead Thermal Resistance (Note 1) | 32 | $^\circ\text{C/W}$ |

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 | Test Conditions | Value | | | | | | | Unit |
|-----------------|---|--|-------|------|------|------|------|------|------|------|
| | | | RS1A | RS1B | RS1D | RS1G | RS1J | RS1K | RS1M | |
| V _F | Forward Voltage | I _F = 1.0 A | 1.3 | | | | | | | V |
| t _{rr} | Reverse Recovery Time | I _F = 0.5 A, I _R = 1.0 A, I _{rr} = 0.25 A | 150 | | | | 250 | 500 | | ns |
| I _R | Reverse Current at Rated V _R | T _A = 25°C | 5.0 | | | | | | | μA |
| | | T _A = 125°C | 50 | | | | | | | |
| C _T | Total Capacitance | V _R = 4.0 V, f = 1.0 MHz | 10 | | | | | | | 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.

RS1A – RS1M

TYPICAL PERFORMANCE CHARACTERISTICS

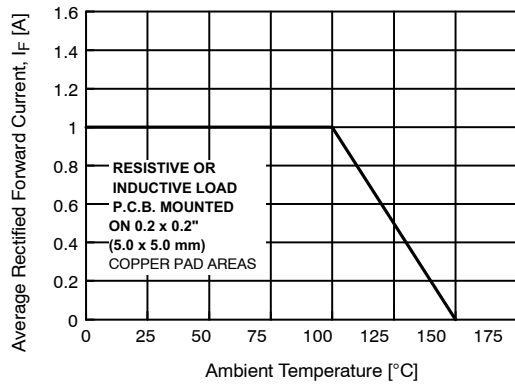


Figure 1. Forward Current Derating Curve

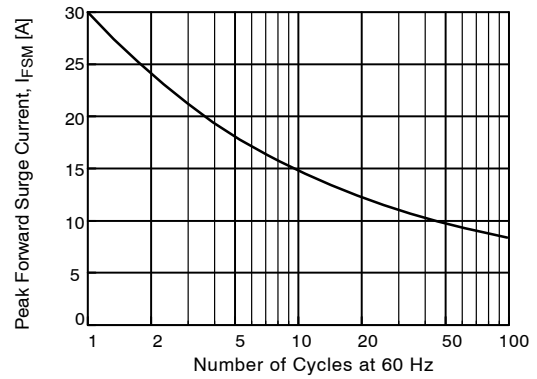


Figure 2. Non-Repetitive Surge Current

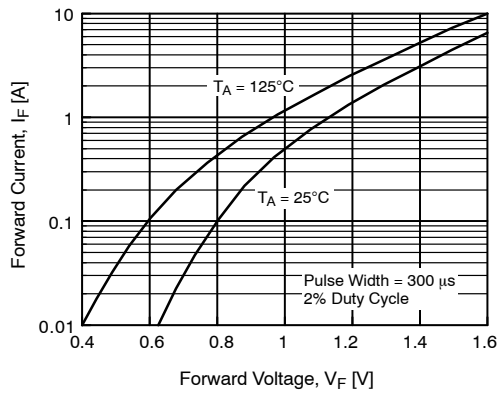


Figure 3. Forward Voltage Characteristics

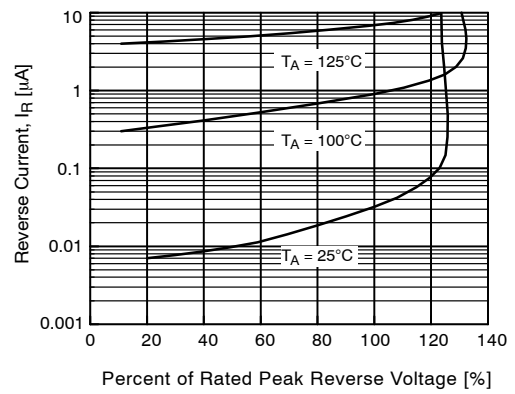


Figure 4. Reverse Current vs. Reverse Voltage

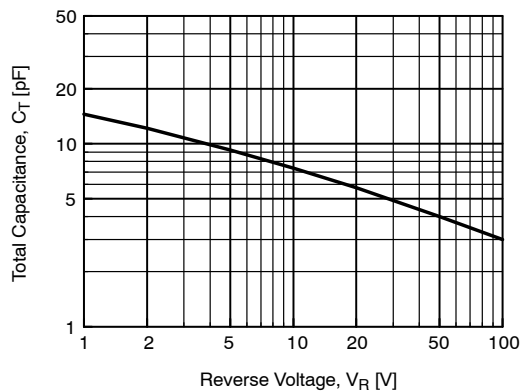
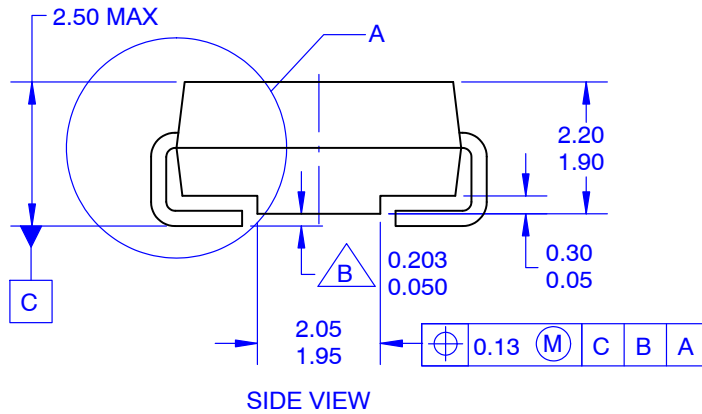
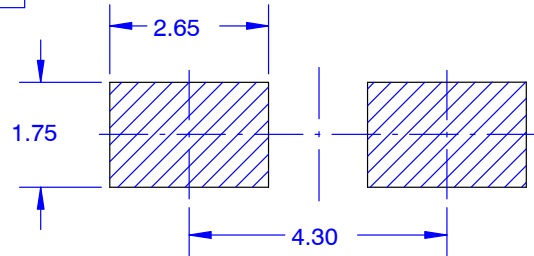
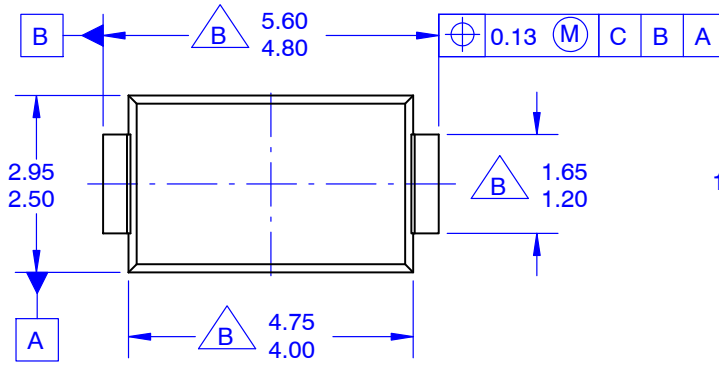


Figure 5. Total Capacitance

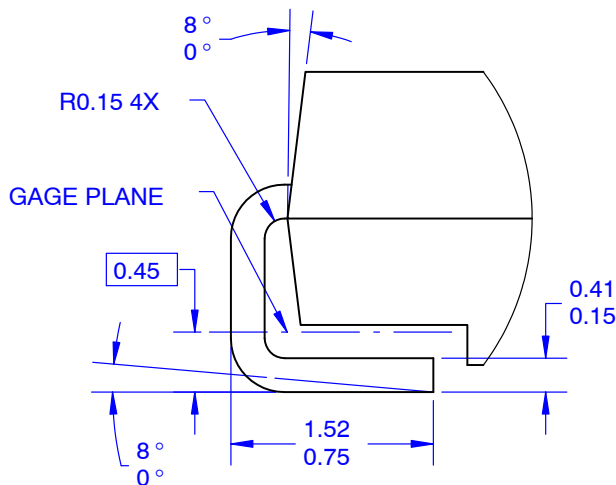
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DATE 31 AUG 2016



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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