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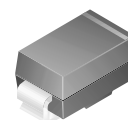
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RS1A - RS1M

Fast Rectifiers

Features

- Glass-Passivated Junction
- For Surface Mounted Applications
- Built-in Strain Relief, Ideal for Automated Placement
- UL Certified: Certificate # E326243



SMA/DO-214AC
COLOR BAND DENOTES CATHODE

Ordering Information

| Part Number | Marking | Package | Packing Method |
|-------------|---------|----------|----------------|
| RS1A | RS1A | DO-214AC | Tape and Reel |
| RS1B | RS1B | | |
| RS1D | RS1D | | |
| RS1G | RS1G | | |
| RS1J | RS1J | | |
| RS1K | RS1K | | |
| RS1M | RS1M | | |

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 | | | | | | | 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 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_{STG} | Storage Temperature Range | -55 to +150 | | | | | | | $^\circ\text{C}$ |
| T_J | Operating Junction Temperature | -55 to +150 | | | | | | | $^\circ\text{C}$ |

Thermal Characteristics⁽¹⁾

| Symbol | Parameter | Value | Units |
|-----------------|--|-------|-------|
| P_D | Power Dissipation | 1.19 | W |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient ⁽¹⁾ | 105 | °C/W |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead ⁽¹⁾ | 32 | °C/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 | Teat Conditions | Value | | | | | | Units |
|----------|--------------------------------|---|-------|----|----|-----|-----|----|---------------|
| | | | 1A | 1B | 1D | 1G | 1J | 1K | |
| V_F | Forward Voltage | 1.0 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 | | | | | | μA |
| | | $T_A = 125^\circ\text{C}$ | 50 | | | | | | μA |
| C_T | Total Capacitance | $V_R = 4.0\text{ V}$, $f = 1.0\text{ MHz}$ | 10 | | | | | | pF |

Typical Performance Characteristics

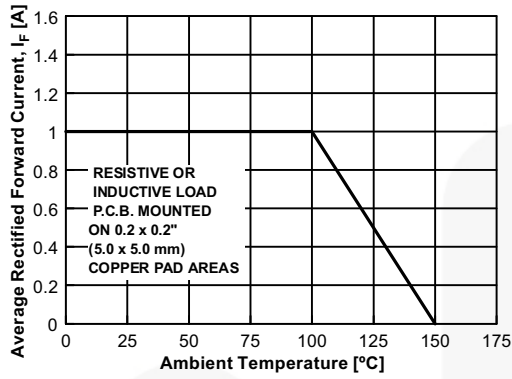


Figure 1. Forward Current Derating Curve

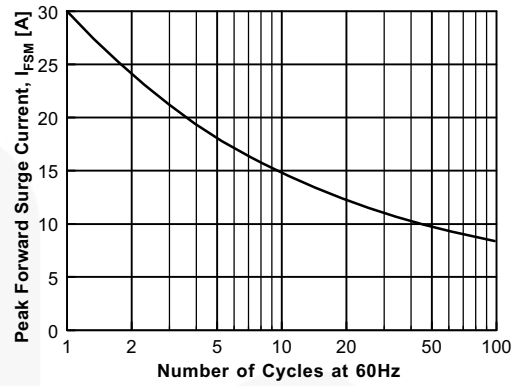


Figure 2. Non-Repetitive Surge Current

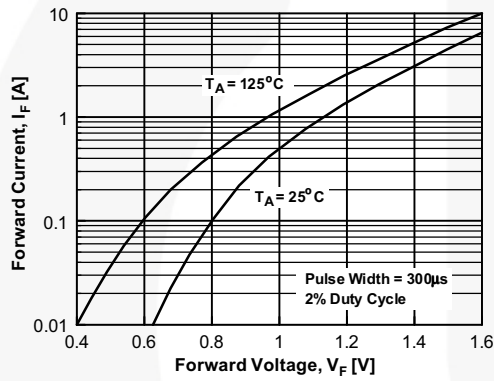


Figure 3. Forward Voltage Characteristics

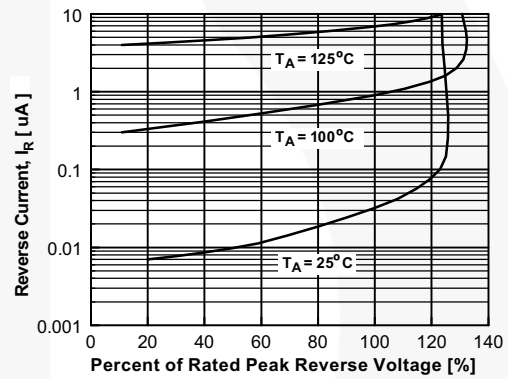


Figure 4. Reverse Current vs. Reverse Voltage

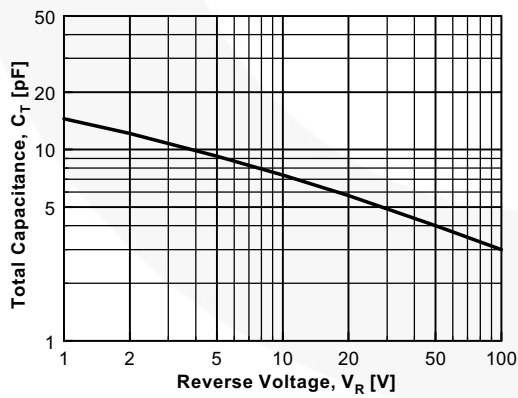
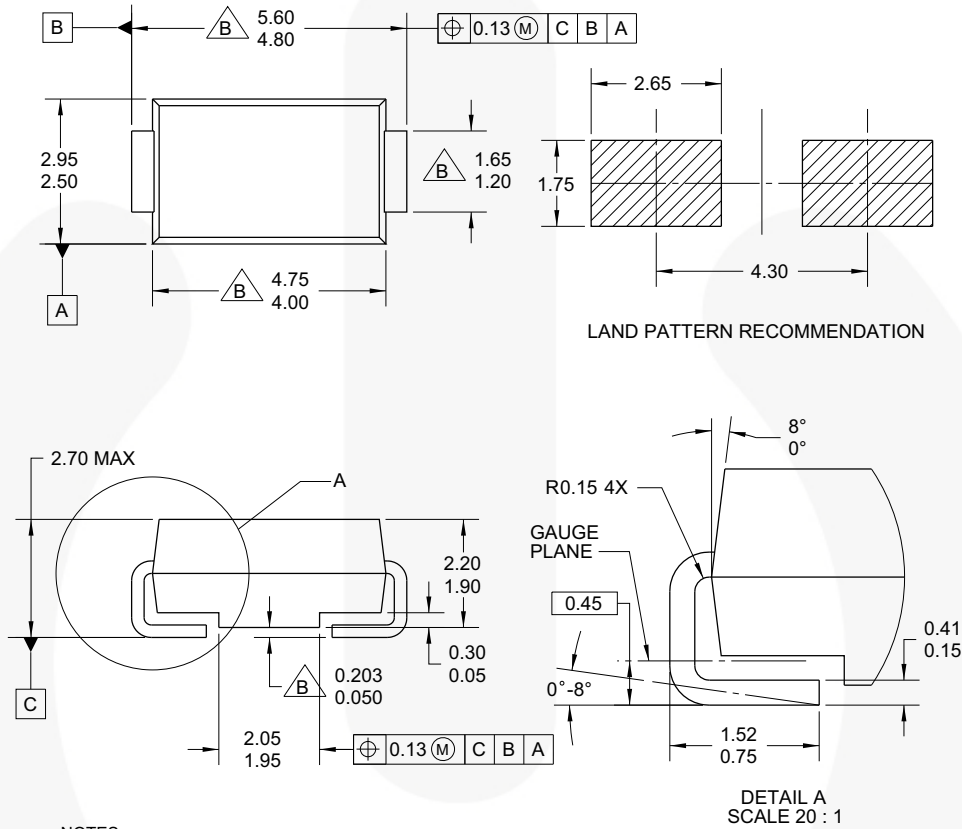


Figure 5. Total Capacitance

Physical Dimension

DO-214AC



NOTES:

- A. EXCEPT WHERE NOTED CONFORMS TO JEDEC DO214 VARIATION AC.
- \triangle B. DOES NOT COMPLY JEDEC STD. VALUE.
- C. ALL DIMENSIONS ARE IN MILLIMETERS.
- D. DIMENSIONS ARE EXCLUSIVE OF BURRS.
- E. MOLD FLASH AND TIE BAR PROTRUSIONS. DIMENSION AND TOLERANCE AS PER ASME Y14.5-1994.
- F. LAND PATTERN STD. DIOM5025X231M.
- G. DRAWING FILE NAME: DO214ACREV1

Figure 6. 2-LEAD, SMA, JEDEC DO-214, VARIATION AC (ACTIVE)

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