

Schottky Rectifier

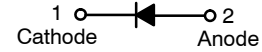
SS32 - S310

Description

The SS32–S310 series includes a high–efficiency, low power loss, general–purpose Schottky rectifiers. The clipbonded leg structure provides high thermal performance and low electrical resistance. These rectifiers are suited for free wheeling, secondary rectification, and reverse polarity protection applications.

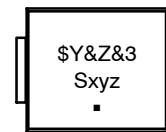
Features

- Metal to Silicon Rectifiers, Majority Carrier Conduction
- Low–Forward Voltage Drop
- Easy Pick and Place
- High–Surge Current Capability
- This Device is Pb–Free and Halide Free



SMC
CASE 403AG

MARKING DIAGRAM



- | | |
|------|------------------------|
| \$Y | = Logo |
| &Z | = Assembly Plant Code |
| &3 | = Date Code |
| Sxyz | = Specific Device Code |
| | x = S or 3 |
| | y = 1 or 3 |
| | z = 0 or 2–9 |

ORDERING INFORMATION

| Device | Package | Shipping† |
|--|----------------------------------|-----------------------|
| SS32 SS33 SS34 SS35 SS36 SS38 SS39 S310 | SMC (Pb–Free, Halide–Free) | 3000 / Tape & Reel |

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

SS32 – S310

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

| Symbol | Parameter | Value | | | | | | | | Units |
|-------------|---|-------------|------|------|------|------|------|------|------|------------------|
| | | SS32 | SS33 | SS34 | SS35 | SS36 | SS38 | SS39 | S310 | |
| V_{RRM} | Maximum Repetitive Reverse Voltage | 20 | 30 | 40 | 50 | 60 | 80 | 90 | 100 | V |
| $I_{F(AV)}$ | Maximum Average Forward Current at $T_A = 75^\circ\text{C}$ | 3.0 | | | | | | | | A |
| I_{FSM} | Non–Repetitive Peak Forward Surge Current: 8.3 ms Single Half–Sine Wave | 100 | | | | | | | | A |
| dV/dt | Maximum Voltage Rate of Change | 10000 | | | | | | | | V/ μs |
| T_{STG} | Storage Temperature Range | –55 to +150 | | | | | | | | $^\circ\text{C}$ |
| T_J | Operating Junction Temperature | –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

| Symbol | Parameter | Value | Unit |
|-----------------|--|-------|---------------------------|
| P_D | Power Dissipation | 2.27 | W |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient (Note 1) | 55 | $^\circ\text{C}/\text{W}$ |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead | 17 | $^\circ\text{C}/\text{W}$ |

1. Device mounted on FE–4 PCB 0.55 x 0.55 inch (14 x 14 mm).

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

| Symbol | Parameter | Test Conditions | Value | | | | | | | | Units |
|--------|--------------------------------|---------------------------|-------|------|------|------|------|------|------|------|-------|
| | | | SS32 | SS33 | SS34 | SS35 | SS36 | SS38 | SS39 | S310 | |
| V_F | Forwarded Voltage | $I_F = 3.0\text{ A}$ | 500 | | 750 | | 850 | | | mV | |
| I_R | Reverse Current at Rated V_R | $T_A = 25^\circ\text{C}$ | 0.5 | | | | | | | | mA |
| | | $T_A = 100^\circ\text{C}$ | 20 | | 10 | | | | | | |

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.

TYPICAL CHARACTERISTICS

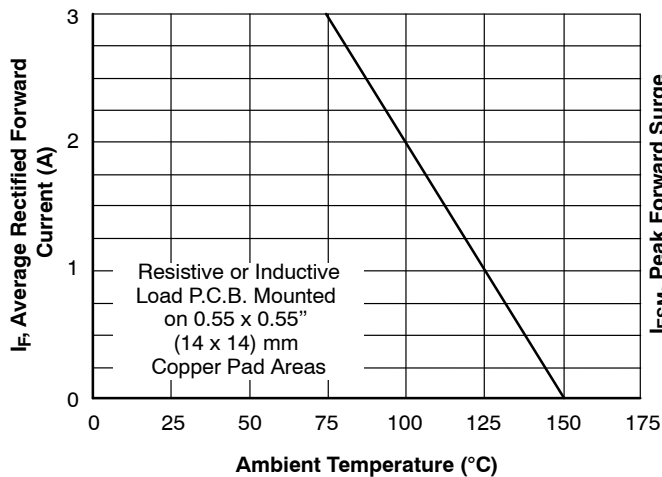


Figure 1. Forward Current Derating Curve

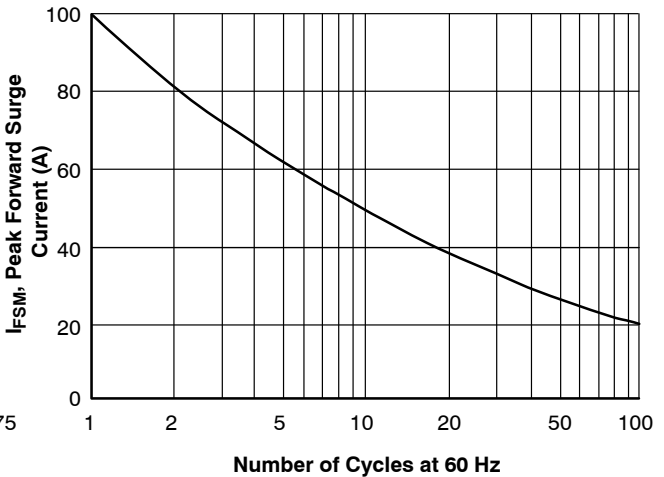


Figure 2. Non–Repetitive Surge Current

TYPICAL CHARACTERISTICS

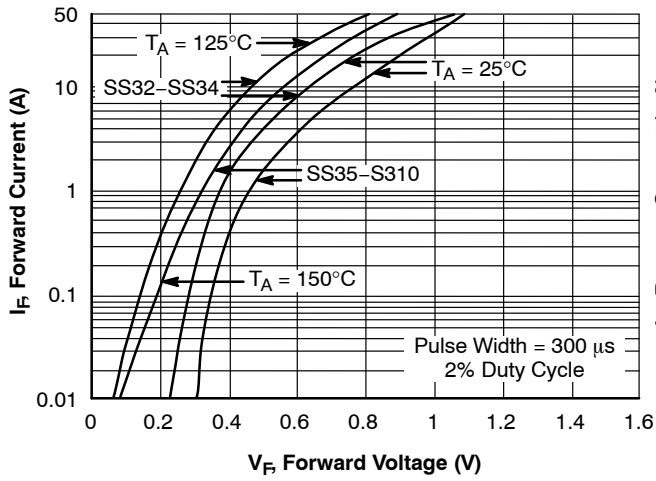


Figure 3. Forward Voltage Characteristics

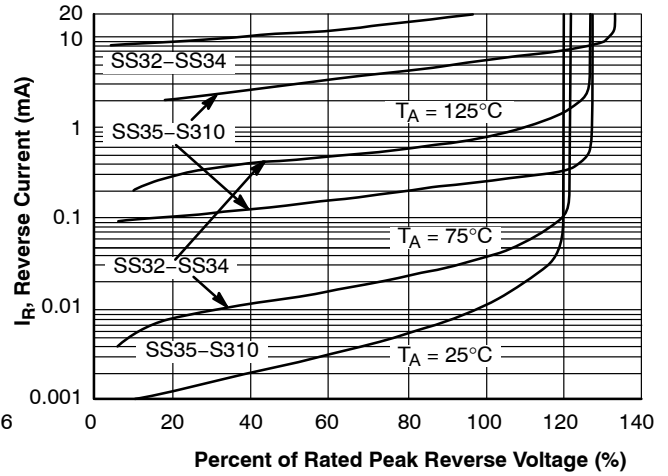


Figure 4. Reverse Current vs. Reverse Voltage

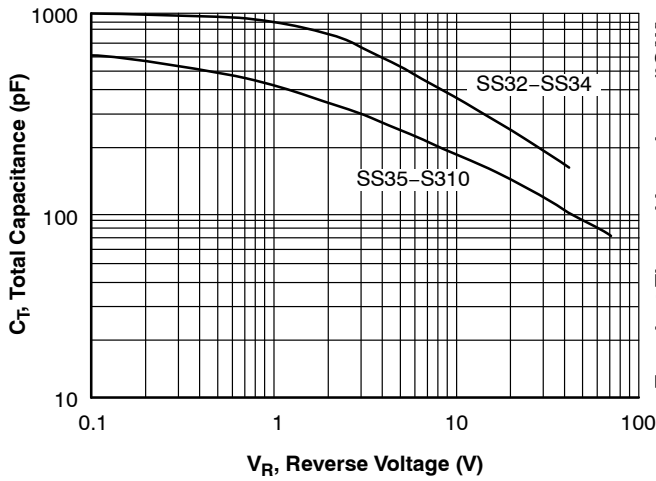


Figure 5. Total Capacitance

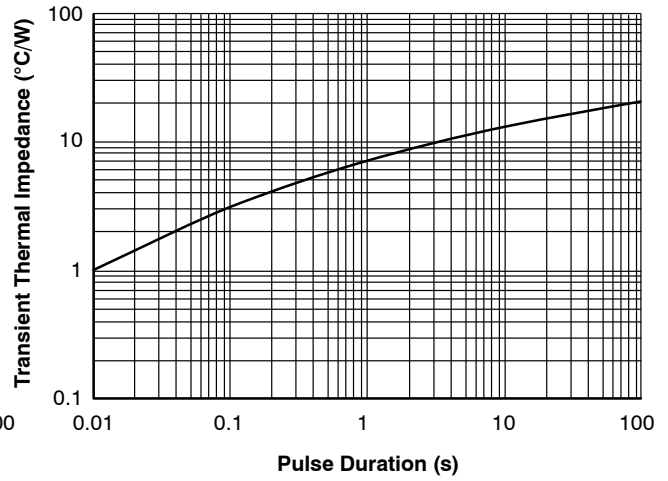
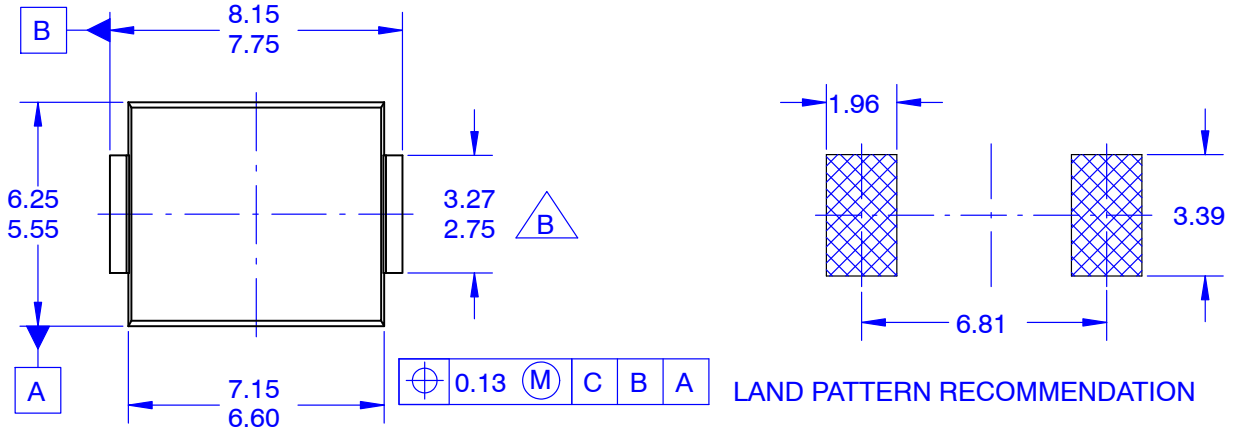


Figure 6. Thermal Impedance Characteristics

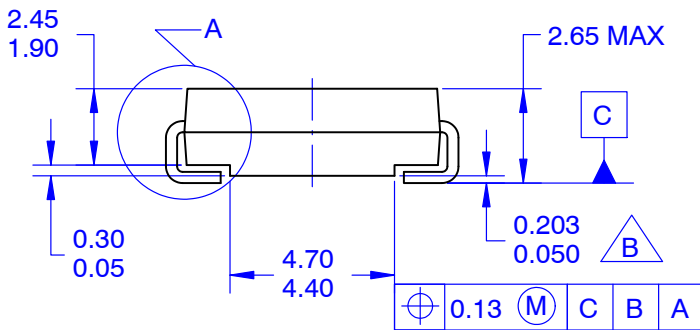


SMC
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ISSUE O

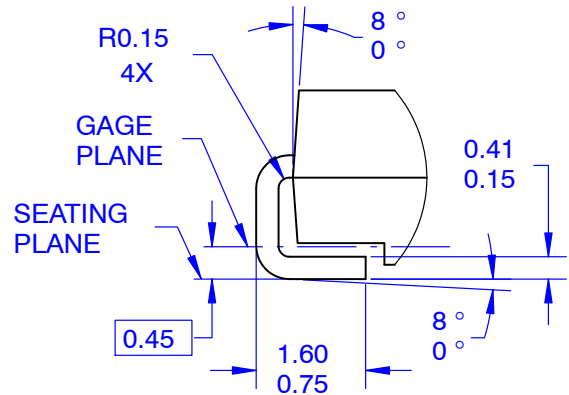
DATE 31 AUG 2016



TOP VIEW



SIDE VIEW



DETAIL A
 SCALE 2:1

NOTES:

A. EXCEPT WHERE NOTED, CONFORMS TO JEDEC DO-214, VARIATION AB

- B** DOES NOT COMPLY TO JEDEC STD. VALUE
- C. ALL DIMENSIONS ARE IN MILLIMETERS
- D. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR PROTRUSIONS.
- E. DIMENSIONS AND TOLERANCING AS PER ASME Y14.5-2009
- F. LAND PATTERN STANDARD: DIOM7957X241M

| | | |
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