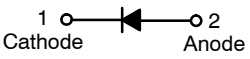
Schottky Rectifier

SS32 - S310

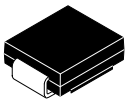


Description

The SS32−S310 series includes a high−efficiency, low power loss, general−propose 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.

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ABSOLUTE MAXIMUM RATINGS Values are at T_A = 25°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°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								°C
T_J	Operating Junction Temperature	−55 to +150								°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	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead	17	°C/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°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 A	500			750		850			mV
I_R	Reverse Current at Rated V_R	T_A = 25°C	0.5								mA
		T_A = 100°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

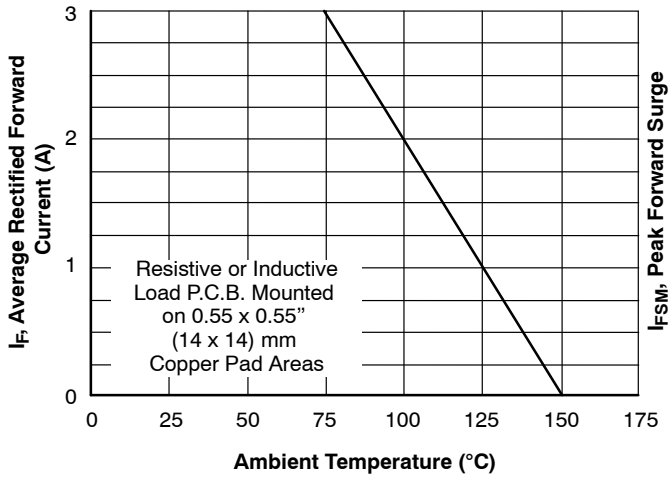

Figure 1. Forward Current Derating Curve

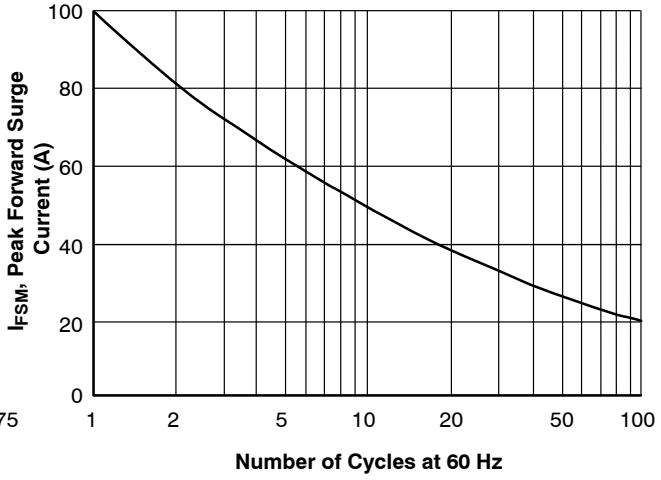

Figure 2. Non−Repetitive Surge Current

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TYPICAL CHARACTERISTICS

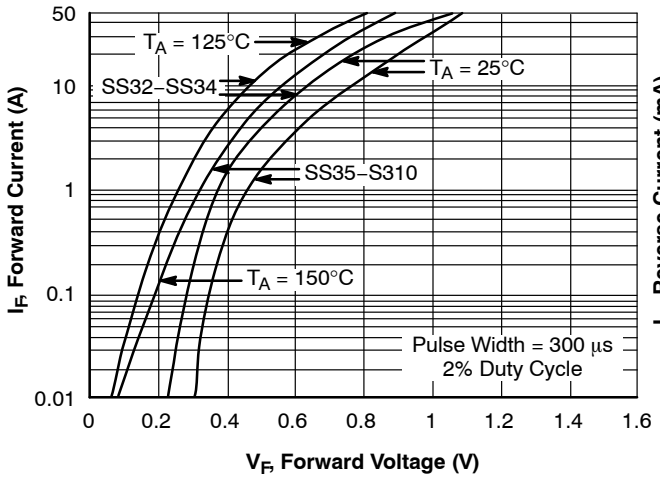

Figure 3. Forward Voltage Characteristics

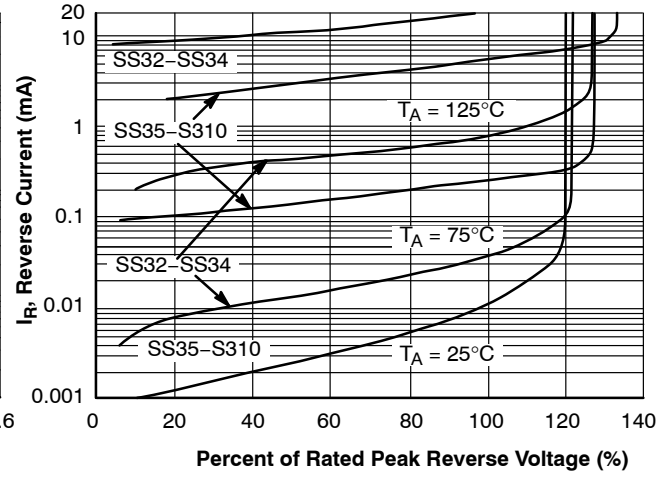

Figure 4. Reverse Current vs. Reverse Voltage

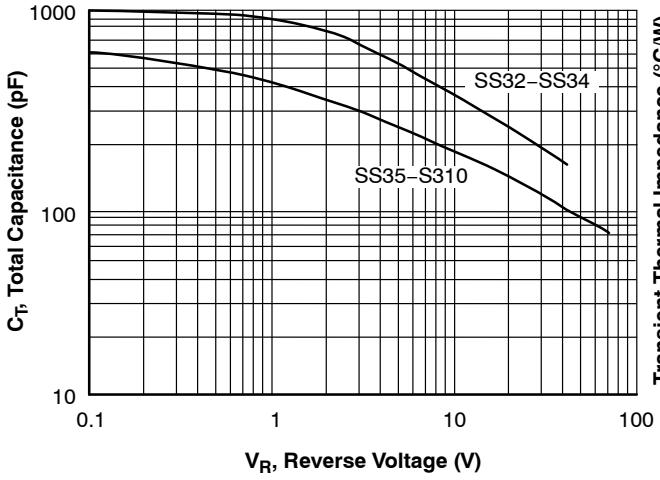

Figure 5. Total Capacitance

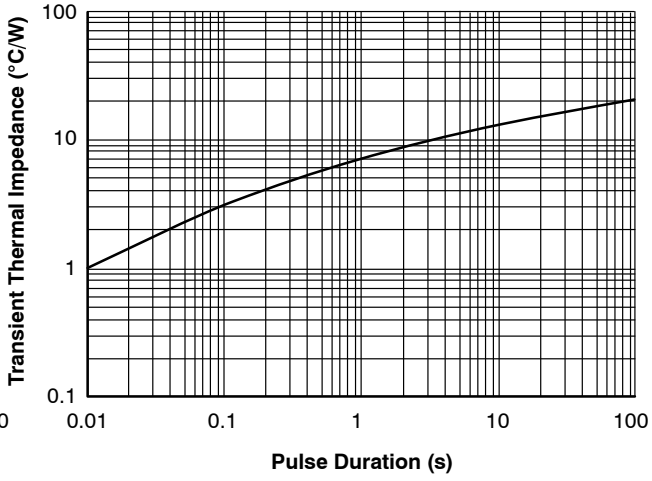

Figure 6. Thermal Impedance Characteristics

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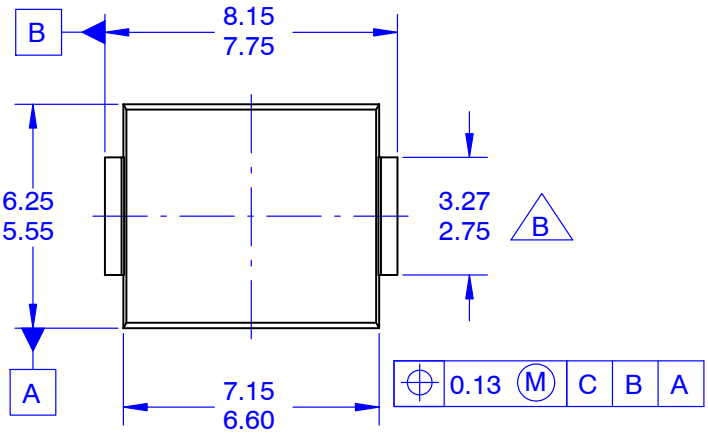
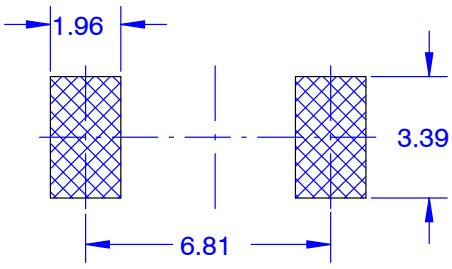
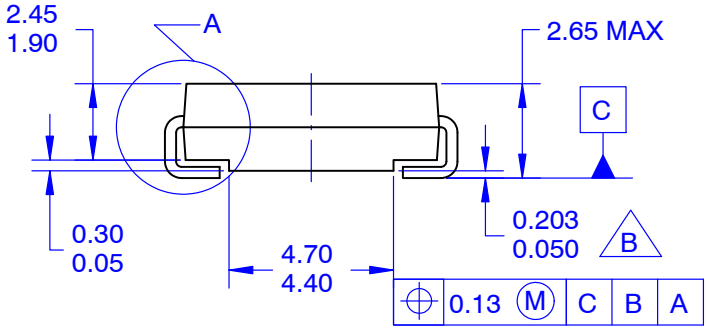


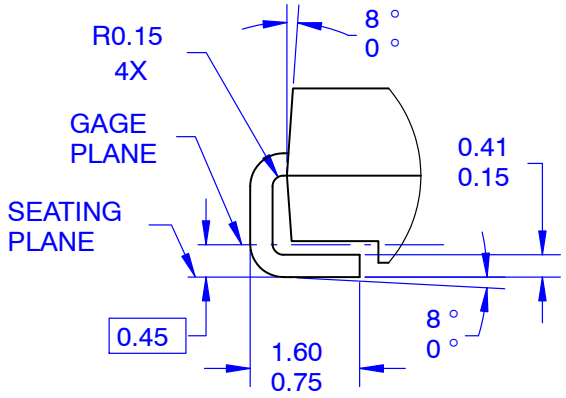
TOP VIEW



LAND PATTERN RECOMMENDATION



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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