Schottky Rectifier

SS12 - S100

SMA
CASE 403AE

Description

The SS12−S100 series includes high−efficiency, low power loss, general−propose schottky rectifiers. The clip−bonded leg structure provides high thermal performance and low electrical resistance. These rectifiers are suited for free wheeling, secondary rectification, and reverse polarity protection applications.

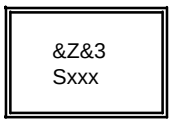
Features

- Glass−Passivated Junctions
- High−Current Capability, Low V_F
- These Devices are Pb−Free, Halogen Free and are RoHS Compliant

Applications

- Low Voltage
- High−Frequency Inverters
- Free Wheeling
- Polarity Protection

MARKING DIAGRAM



&Z	= Assembly Plant Code
&3	= Date Code (Year & Week)
Sxxx	= Specific Device Code

ORDERING INFORMATION

Part Number	Top Mark	Package	Shipping†
SS12	SS12	SMA (Pb−Free/Halogen Free)	7500 / Tape & Reel
SS13	SS13	SMA (Pb−Free/Halogen Free)	7500 / Tape & Reel
SS14	SS14	SMA (Pb−Free/Halogen Free)	7500 / Tape & Reel
SS15	SS15	SMA (Pb−Free/Halogen Free)	7500 / Tape & Reel
SS16	SS16	SMA (Pb−Free/Halogen Free)	7500 / Tape & Reel
SS18	SS18	SMA (Pb−Free/Halogen Free)	7500 / Tape & Reel
SS19	SS19	SMA (Pb−Free/Halogen Free)	7500 / Tape & Reel
S100	S100	SMA (Pb−Free/Halogen Free)	7500 / Tape & Reel

†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.

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Specifications

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Value								Unit
		SS12	SS13	SS14	SS15	SS16	SS18	SS19	S100	
V_{RRM}	Peak Repetitive Reverse Voltage	20	30	40	50	60	80	90	100	V
$I_{F(AV)}$	Maximum Average Forward Current: 0.375−inch Lead Length at T_A = 75°C	1.0								A
I_{FSM}	Non−Repetitive Peak Forward Surge Current: 8.3 ms Single Half−Sine Wave	40								A
T_J	Operating Junction Temperature	−65 to +125								°C
T_{STG}	Storage Temperature Range	−65 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 (T_A = 25°C unless otherwise noted)

Symbol	Characteristic	Value	Unit
P_D	Power Dissipation	1.1	W
$R_{\theta JA}$	Thermal Resistance, Junction−to−Ambient (Note 1)	88	°C/W

1. Device mounted on FE−4 PCB 0.013 mm.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Conditions	Value								Unit
			SS12	SS13	SS14	SS15	SS16	SS18	SS19	S100	
V_F	Maximum Forward Voltage	I_F = 1.0 A	500			700		850			mV
I_R	Maximum Reverse Current at Rated V_R	T_A = 25°C	0.2								mA
		T_A = 100°C	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 PERFORMANCE CHARACTERISTICS

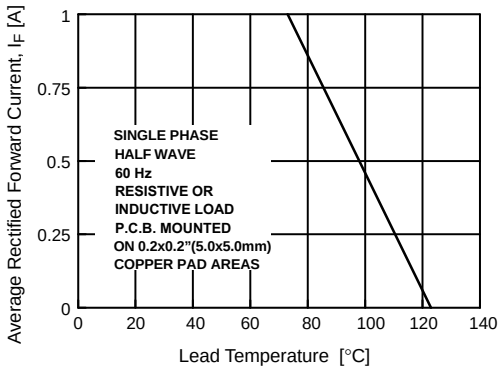

Figure 1. Forward Current Derating Curve

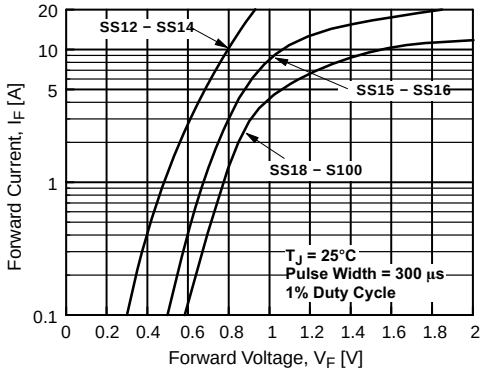

Figure 2. Forward Voltage Characteristics

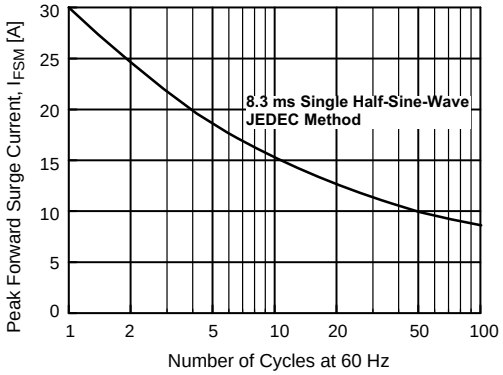

Figure 3. Non−Repetitive Surge Current

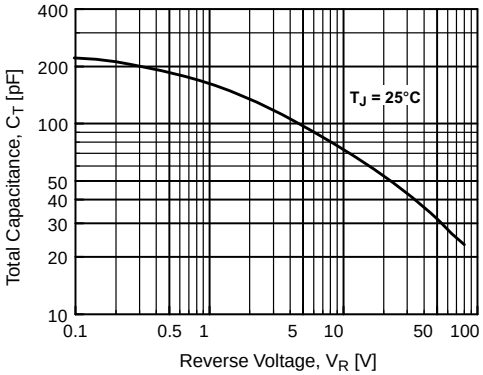

Figure 4. Total Capacitance

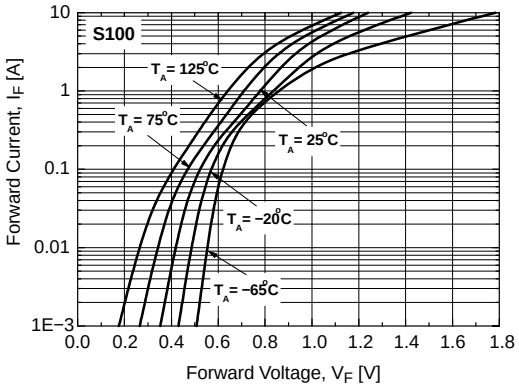

Figure 5. Low−Current Forward Voltage Characteristics

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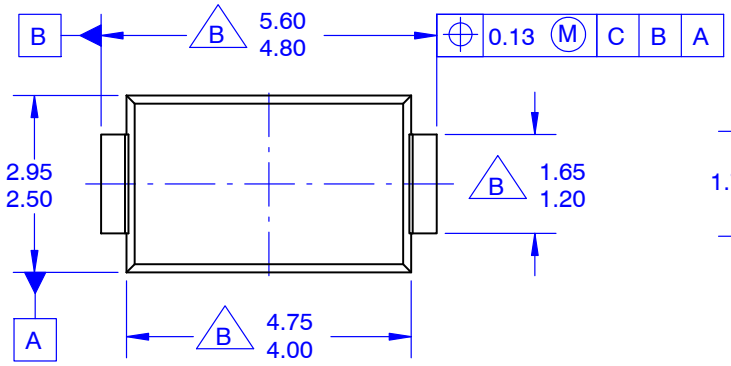
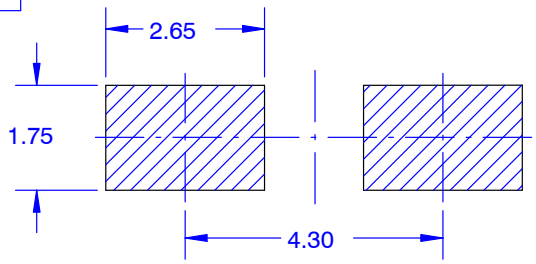
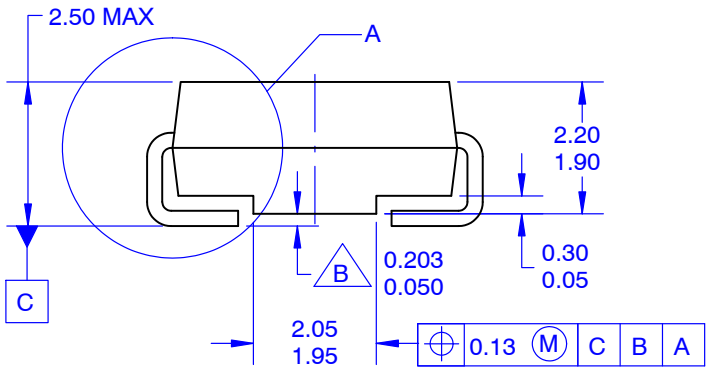


TOP VIEW



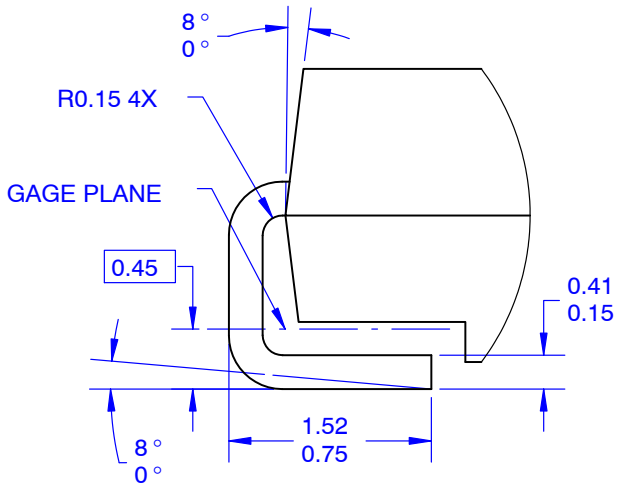
LAND PATTERN RECOMMENDATION



SIDE VIEW

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



DETAIL A
SCALE 20 : 1

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