

# SS12 - S100

## Schottky Rectifier

### Description

The SS12–S100 series includes high–efficiency, low power loss, general–purpose 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

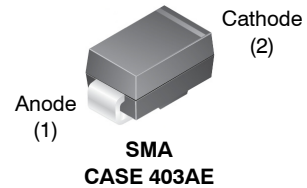
### Applications

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

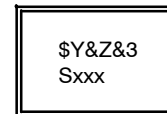


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### MARKING DIAGRAM



\$Y = ON Semiconductor Logo  
&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.

# SS12 – S100

## Specifications

### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ 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 $T_A = 75^\circ\text{C}$	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								$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-65 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	Characteristic	Value	Unit
$P_D$	Power Dissipation	1.1	W
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient (Note 1)	88	$^\circ\text{C}/\text{W}$

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

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Value							Unit
			SS12	SS13	SS14	SS15	SS16	SS18	SS19	
$V_F$	Maximum Forward Voltage	$I_F = 1.0\text{ A}$	500			700		850		mV
$I_R$	Maximum Reverse Current at Rated $V_R$	$T_A = 25^\circ\text{C}$	0.2							mA
		$T_A = 100^\circ\text{C}$	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

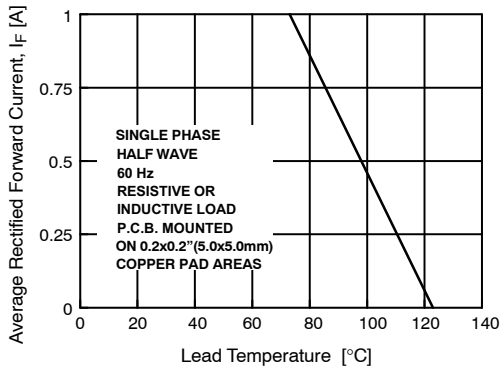


Figure 1. Forward Current Derating Curve

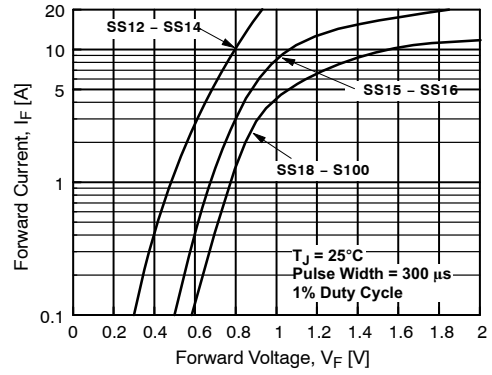


Figure 2. Forward Voltage Characteristics

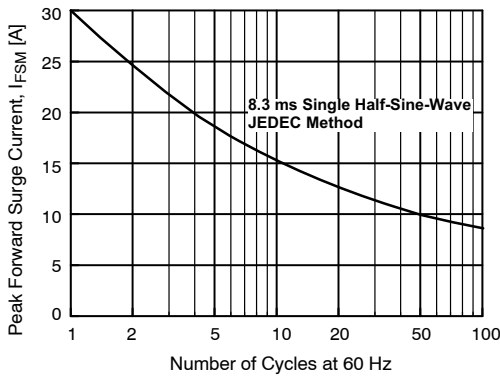


Figure 3. Non-Repetitive Surge Current

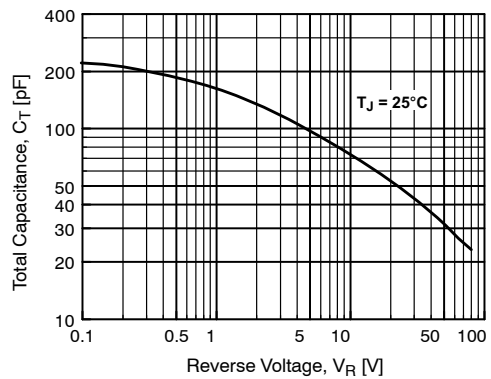


Figure 4. Total Capacitance

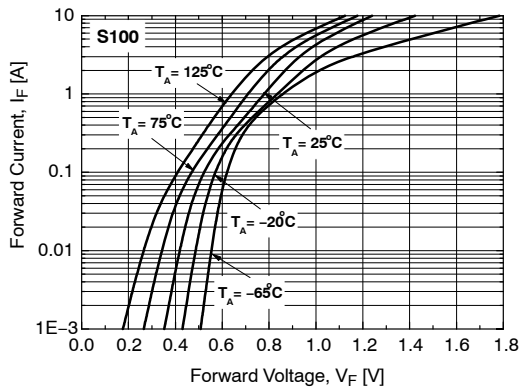
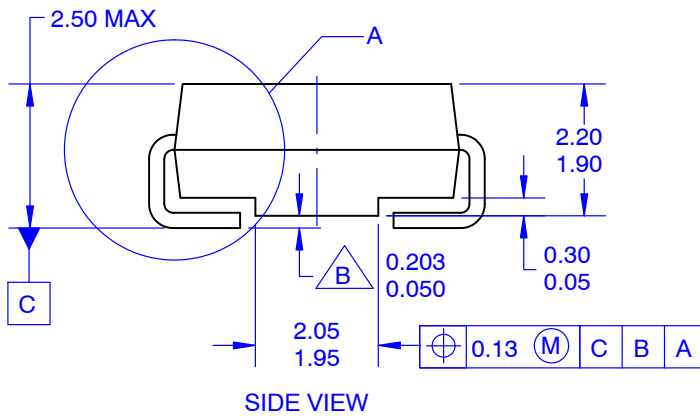
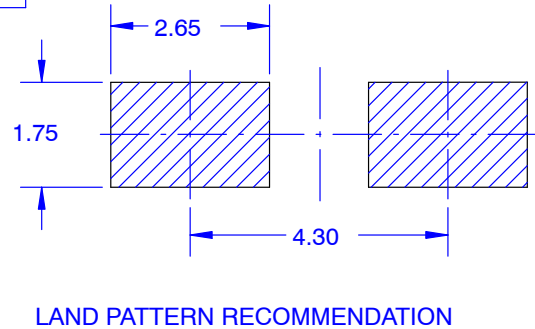


Figure 5. Low-Current Forward Voltage Characteristics

**MECHANICAL CASE OUTLINE**  
**PACKAGE DIMENSIONS**

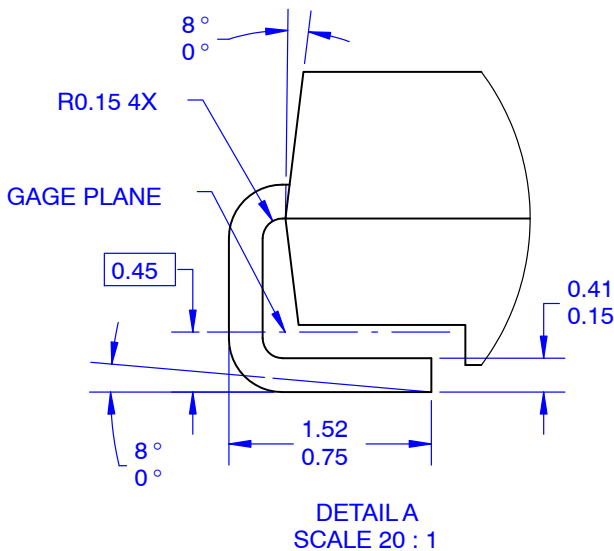
**SMA**  
**CASE 403AE**  
**ISSUE O**

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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