



# THE DATASHEET OF S115FA

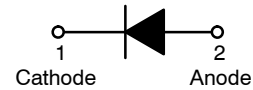


# Schottky Barrier Rectifiers, Surface Mount, 1 A, 50 V - 150 V

## SS15FA - S115FA

### Features

- Low Power Loss, High Efficiency
- Guard Ring for Overvoltage Protection
- High Surge Current Capability
- UL Flammability 94V-0 Classification
- MSL 1 per J-STD-020
- Green Molding Compound
- These Devices are Pb-Free and are RoHS Compliant

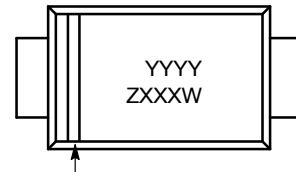


Rectifier



SOD-123FL  
CASE 425AB

### MARKING DIAGRAM



Band Indicates Cathode

- YYYY = Binary Calendar Year Code Scheme
- Z = Assembly Plant Code
- XXX = Specific Device Code
- W = Single Digit Week Code

### ORDERING INFORMATION

Part Number	Device Code Marking	Package	Shipping†
SS15FA	15L	SOD-123FL (Pb-Free)	3000 / Tape & Reel
SS16FA	16L	SOD-123FL (Pb-Free)	3000 / Tape & Reel
SS19FA	19L	SOD-123FL (Pb-Free)	3000 / Tape & Reel
S110FA	10L	SOD-123FL (Pb-Free)	3000 / Tape & Reel
S115FA	1AL	SOD-123FL (Pb-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 Specifications Brochure, BRD8011/D.

# SS15FA – S115FA

## SPECIFICATIONS

### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value					Unit
		SS15FA	SS16FA	SS19FA	S110FA	S115FA	
$V_{RRM}$	Repetitive Peak Reverse Voltage	50	60	90	100	150	V
$V_{RMS}$	RMS Reverse Voltage	35	42	63	70	105	V
$V_R$	DC Blocking Voltage	50	60	90	100	150	V
$I_{F(AV)}$	Average Forward Rectified Current	1					A
$I_{FSM}$	Peak Forward Surge Current: 8.3 ms Single Half Sine-Wave Superimposed on Rated Load	30					A
$T_J$	Operating Junction Temperature Range	-55 to +150					$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-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 ( $T_A = 25^\circ\text{C}$ unless otherwise noted) (Note 1)

Symbol	Characteristic	Value	Unit
$\Psi_{JL}$	Junction-to-Lead Thermal Characteristics	16	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance	152	$^\circ\text{C}/\text{W}$

1. Per JESD51-3 Recommended Thermal Test Board. Device mounted on FR-4 PCB, board size = 76.2 mm x 114.3 mm.

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

Symbol	Parameter	Conditions	Value					Unit
			SS15FA	SS16FA	SS19FA	S110FA	S115FA	
$V_F$	Maximum Instantaneous Forward Voltage (Note 2)	$I_F = 0.5 \text{ A}$	0.58		0.70		0.75	V
		$I_F = 1.0 \text{ A}$	0.70		0.80		0.90	
$I_R$	Maximum Reverse Current at Rated $V_R$	$T_J = 25^\circ\text{C}$	0.4		0.05		mA	
		$T_J = 100^\circ\text{C}$	6.0		-			
		$T_J = 125^\circ\text{C}$	-		0.5			
$C_J$	Typical Junction Capacitance	$V_R = 4 \text{ V}$ , $f = 1 \text{ MHz}$	54		35		pF	
$T_{rr}$	Typical Reverse Recovery Time	$I_F = 0.5 \text{ A}$ , $I_R = 1 \text{ A}$ , $I_{RR} = 0.25 \text{ A}$	5.6		8.3		ns	

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.

2. Pulse test with  $PW = 300 \mu\text{s}$ , 1% duty cycle.

# SS15FA - S115FA

## TYPICAL PERFORMANCE CHARACTERISTICS

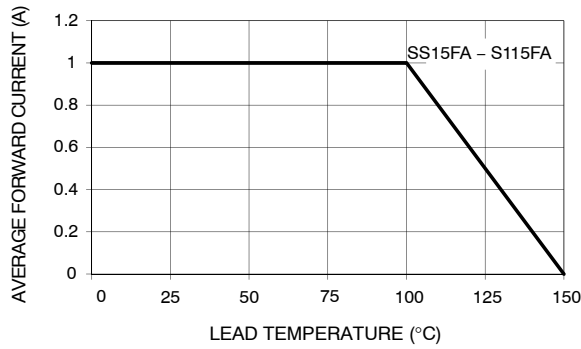


Figure 1. Forward Current Derating Curve

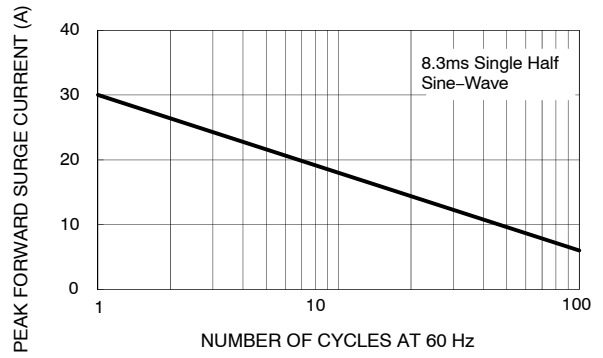


Figure 2. Maximum Non-Repetitive Forward Surge Current

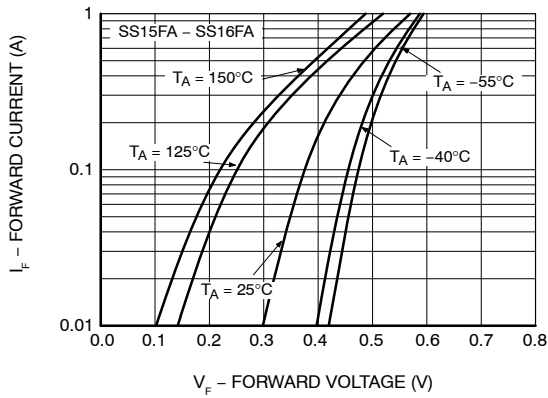


Figure 3. Typical Forward Characteristics

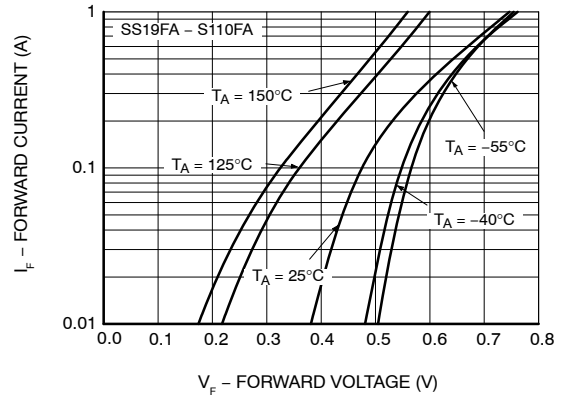


Figure 4. Typical Forward Characteristics

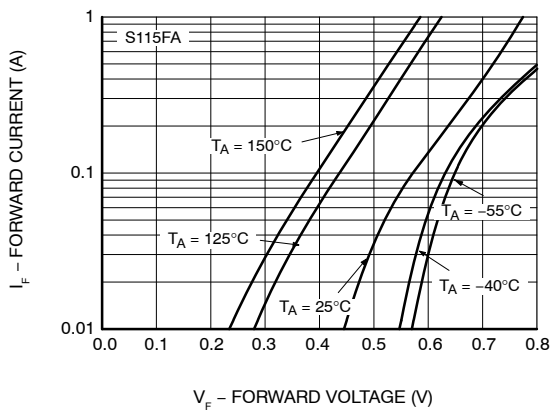


Figure 5. Typical Forward Characteristics

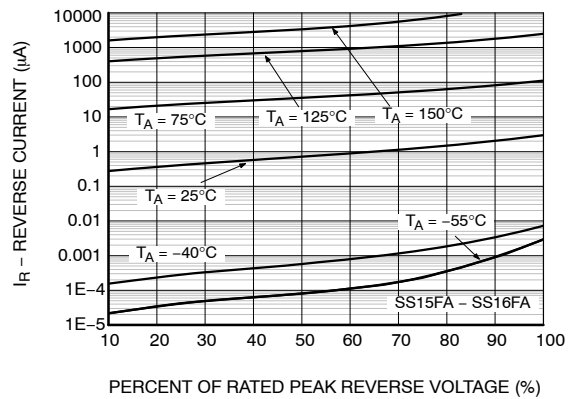


Figure 6. Typical Reverse Characteristics

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## TYPICAL PERFORMANCE CHARACTERISTICS (continued)

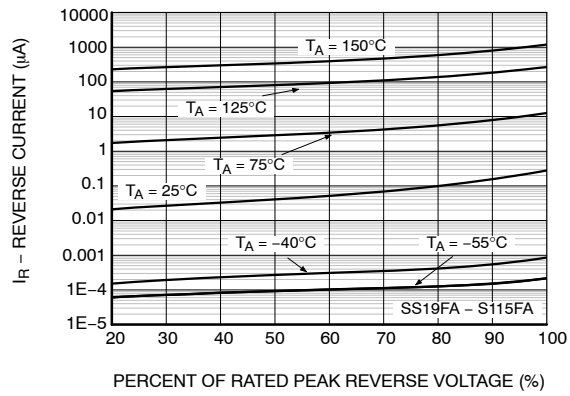


Figure 7. Typical Reverse Characteristics

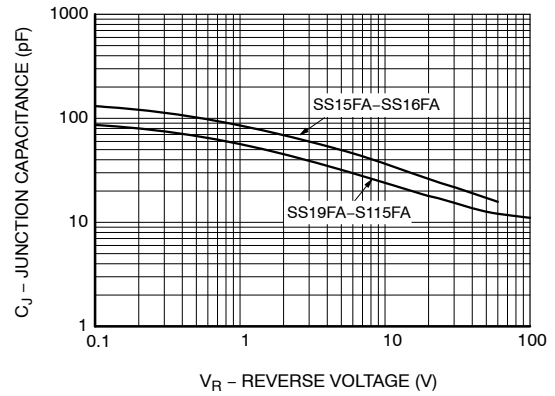
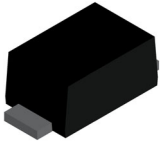


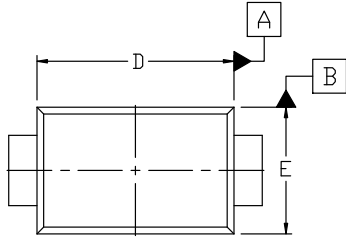
Figure 8. Typical Junction Capacitance

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

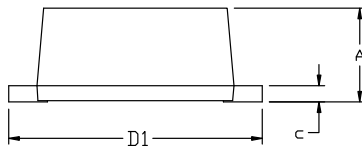


**SOD-123FA**  
**CASE 425AB**  
**ISSUE A**

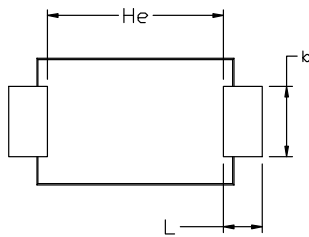
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TOP VIEW



FRONT VIEW

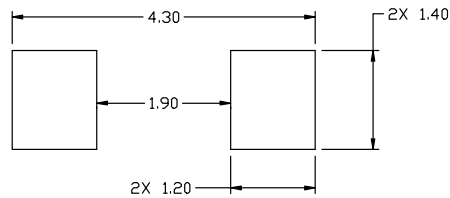


BOTTOM VIEW

NOTES:

1. NO INDUSTRY STANDARD APPLIES TO THIS PACKAGE.
2. ALL DIMENSIONS ARE IN MILLIMETERS.
3. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND THE BAR PROTRUSIONS.

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	1.23	1.33	1.43
b	0.80	1.00	1.20
c	0.16	0.23	0.30
D	2.70	2.80	2.90
D1	3.40	3.60	3.80
E	1.70	1.80	1.90
He	2.45	---	2.60
L	0.35	0.60	0.85



**RECOMMENDED MOUNTING FOOTPRINT\***

\* For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERM/D.

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