

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

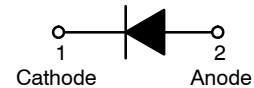


ON Semiconductor®

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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

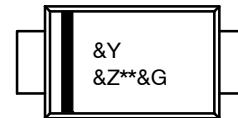


Rectifier



**SOD-123FL
CASE 425AB**

MARKING DIAGRAM



Band Indicates Cathode

- &Y = Binary Calendar Year Coding Scheme
- &Z = Assembly Plant Code
- ** = Specific Device Code
(see "Top Mark" in the table below)
- &G = Single Digit Weekly Date Code

ORDERING INFORMATION

Part Number	Top Mark	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
Ψ_{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 JE51-3 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

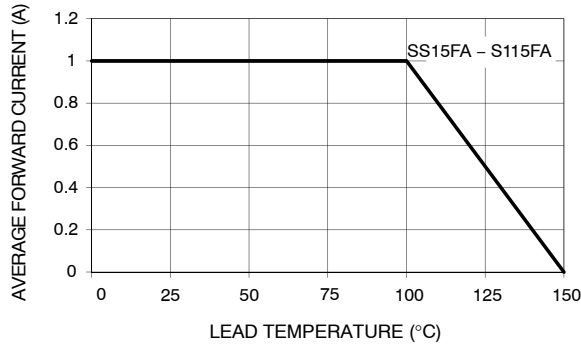


Figure 1. Forward Current Derating Curve

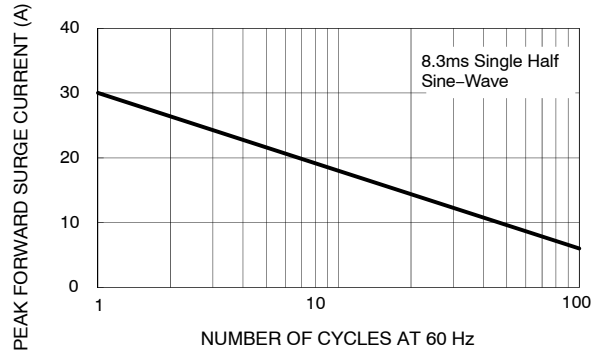


Figure 2. Maximum Non-Repetitive Forward Surge Current

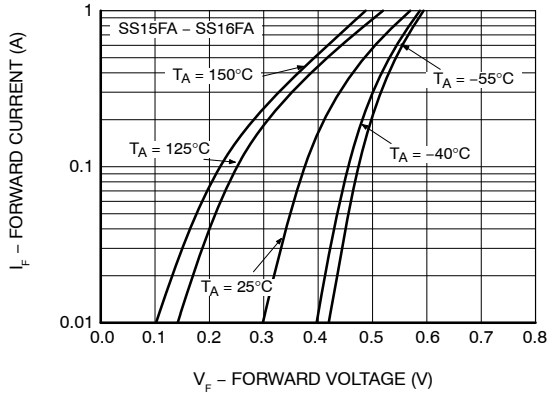


Figure 3. Typical Forward Characteristics

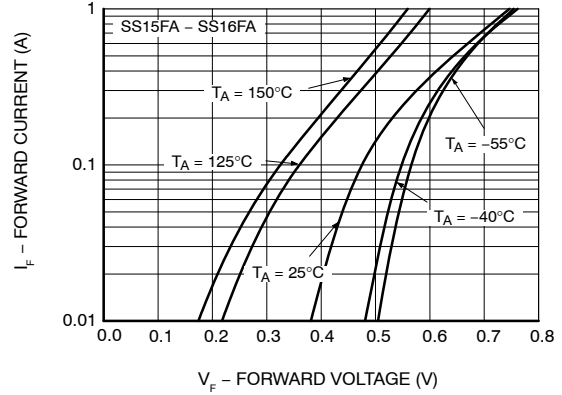


Figure 4. Typical Forward Characteristics

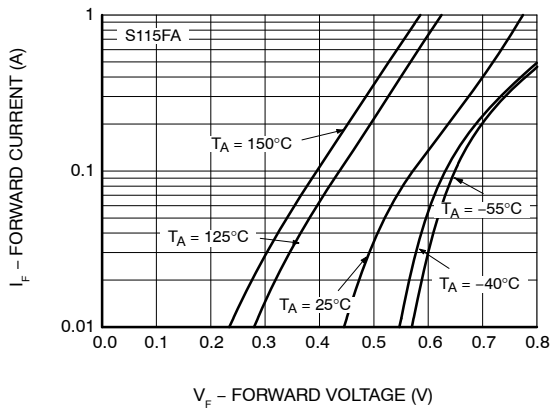


Figure 5. Typical Forward Characteristics

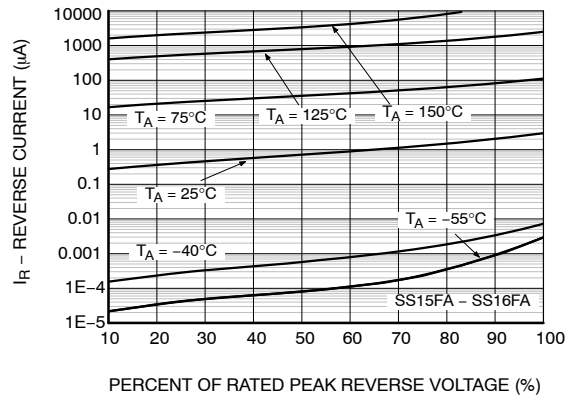


Figure 6. Typical Reverse Characteristics

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TYPICAL PERFORMANCE CHARACTERISTICS (continued)

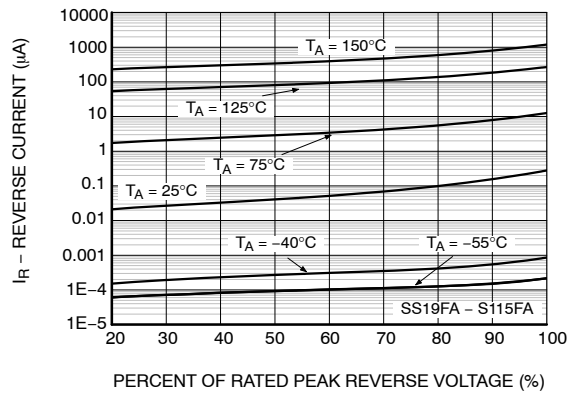


Figure 7. Typical Reverse Characteristics

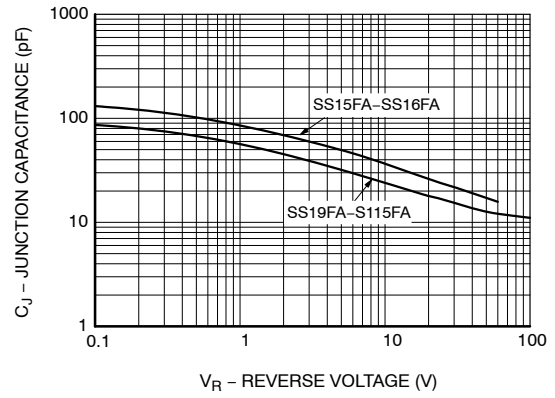
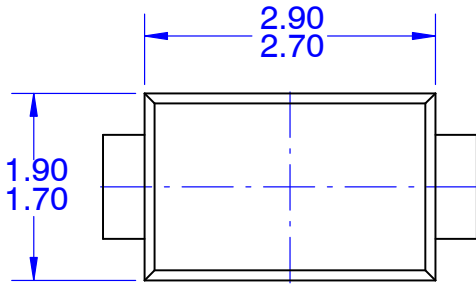


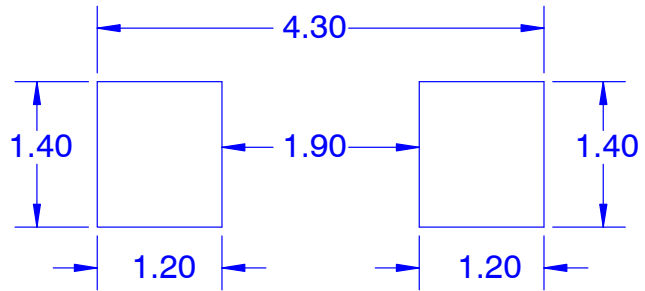
Figure 8. Typical Junction Capacitance

SOD-123FL
CASE 425AB
ISSUE O

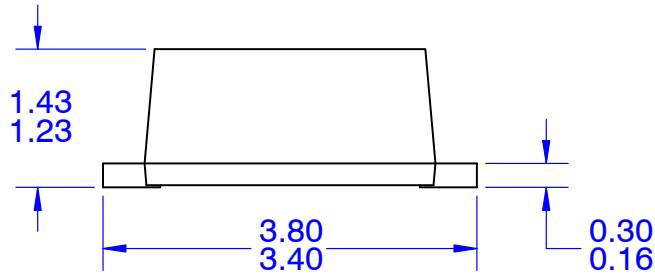
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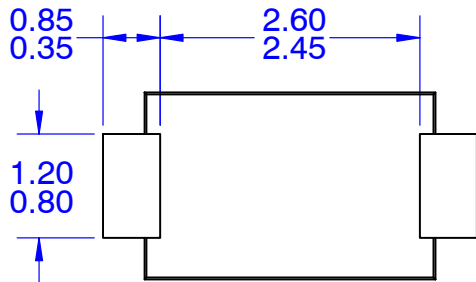
TOP VIEW



LAND PATTERN RECOMMENDATION



FRONT VIEW



BOTTOM VIEW

NOTES:

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- B. ALL DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.

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