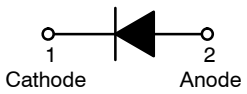
Schottky Barrier Rectifiers, Surface Mount, 1 A, 50 V - 150 V

SS15FA - S115FA



Rectifier

SOD−123FL
CASE 425AB

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

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.

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SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS (T_A = 25°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					°C
T_{STG}	Storage Temperature Range	–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 (T_A = 25°C unless otherwise noted) (Note 1)

Symbol	Characteristic	Value	Unit
Ψ_{JL}	Junction–to–Lead Thermal Characteristics	16	°C/W
$R_{\theta JA}$	Junction–to–Ambient Thermal Resistance	152	°C/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°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 A	0.58		0.70		0.75	V
		I_F = 1.0 A	0.70		0.80		0.90	
I_R	Maximum Reverse Current at Rated V_R	T_J = 25°C	0.4		0.05			mA
		T_J = 100°C	6.0		–			
		T_J = 125°C	–		0.5			
C_J	Typical Junction Capacitance	V_R = 4 V, f = 1 MHz	54		35			pF
T_{rr}	Typical Reverse Recovery Time	I_F = 0.5 A, I_R = 1 A, I_{RR} = 0.25 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 μs, 1% duty cycle.

TYPICAL PERFORMANCE CHARACTERISTICS

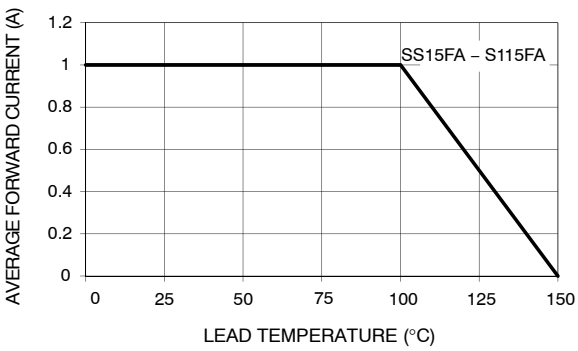


Figure 1. Forward Current Derating Curve

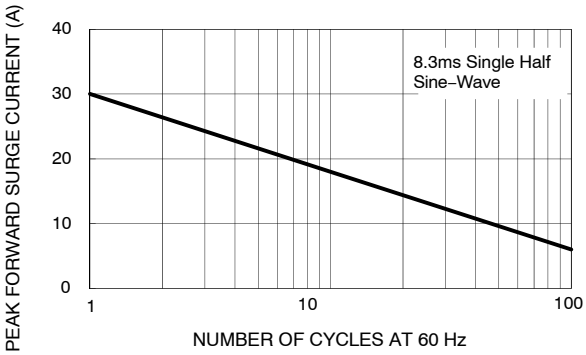


Figure 2. Maximum Non–Repetitive Forward Surge Current

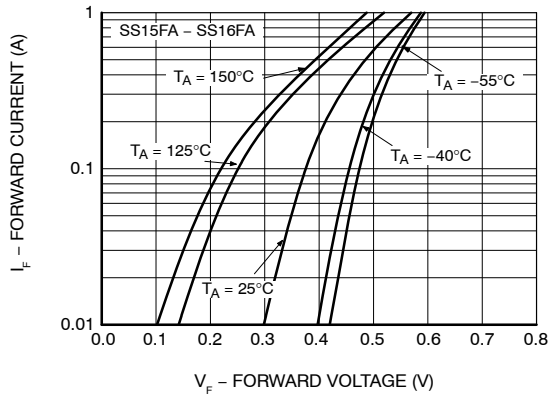


Figure 3. Typical Forward Characteristics

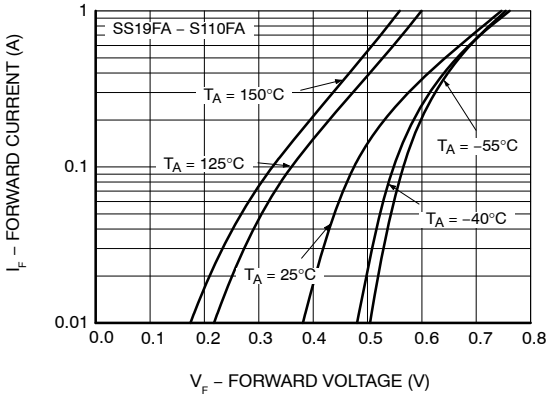


Figure 4. Typical Forward Characteristics

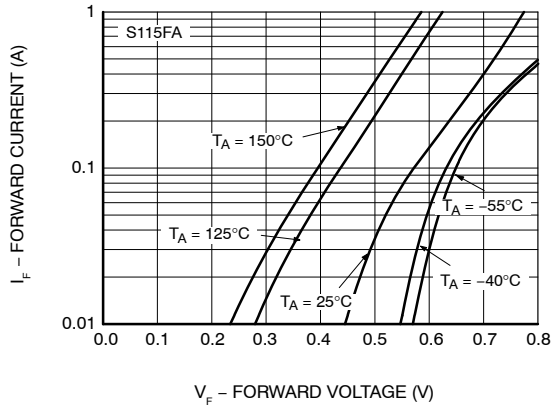


Figure 5. Typical Forward Characteristics

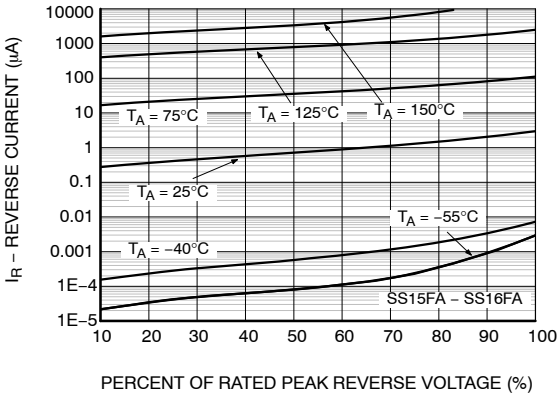


Figure 6. Typical Reverse Characteristics

TYPICAL PERFORMANCE CHARACTERISTICS (continued)

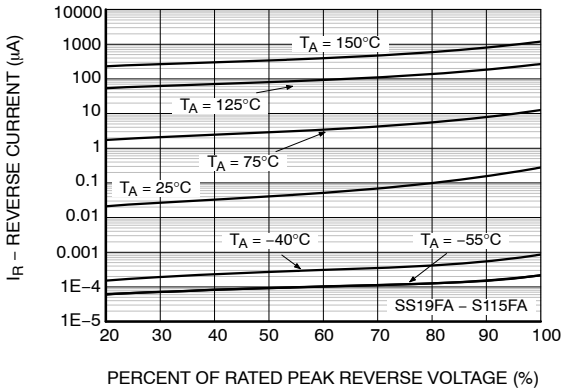


Figure 7. Typical Reverse Characteristics

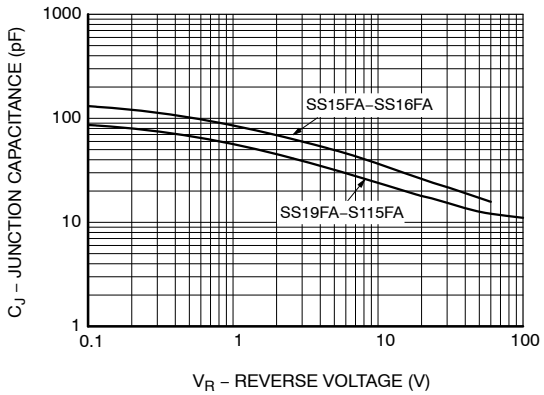
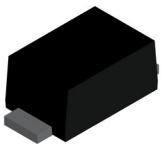
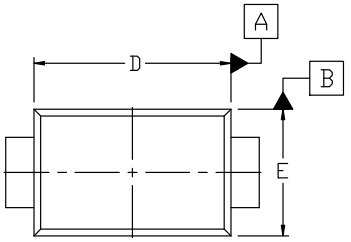


Figure 8. Typical Junction Capacitance

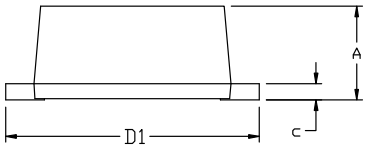


SOD−123FA
CASE 425AB
ISSUE A

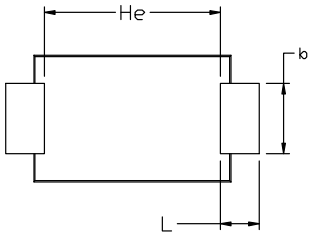
DATE 11 AUG 2022



TOP VIEW



FRONT VIEW

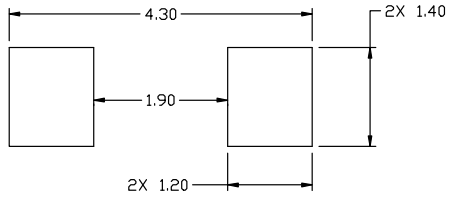


BOTTOM VIEW

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, SOLDERRM/D.

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