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March 2016

SS15FA - S115FA
1 A, 50 V - 150 V Surface Mount Schottky Barrier Rectifiers

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
- RoHS Compliant / Green Molding Compound
- Industrial Device Qualified per AEC-Q101 Standards
  * See authorized use policy

SOD-123FA

Ordering Information

Part Number	Top Mark	Package	Packing Method
SS15FA	15L	SOD-123FA	Tape and Reel
SS16FA	16L	SOD-123FA	Tape and Reel
SS19FA	19L	SOD-123FA	Tape and Reel
S110FA	10L	SOD-123FA	Tape and Reel
S115FA	1AL	SOD-123FA	Tape and Reel

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value					Unit
		SS15 FA	SS16 FA	SS19 FA	S110 FA	S115 FA	
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

Thermal Characteristics[1]

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
ψ_{JL}	Thermal Characteristics, Junction-to-Lead	16	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	152	°C/W

Note:

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

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Value					Unit
			SS15 FA	SS16 FA	SS19 FA	S110 FA	S115 FA	
V_F	Maximum Instantaneous Forward Voltage[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

Note:

2. Pulse test with PW = 300 μs, 1% duty cycle

Typical Performance Characteristics

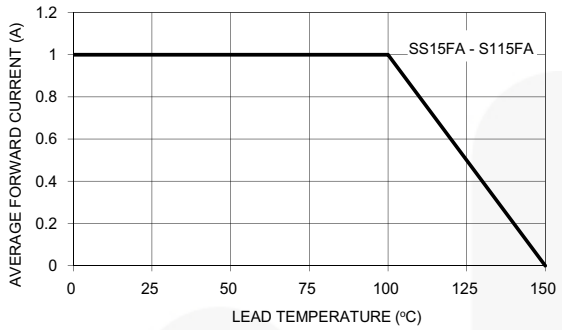


Figure 1. Forward Current Derating Curve

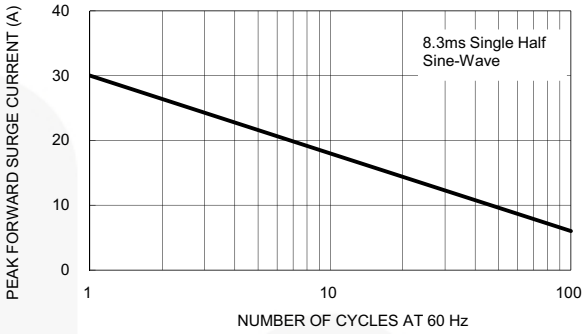


Figure 2. Maximum Non-Repetitive Forward Surge Curren

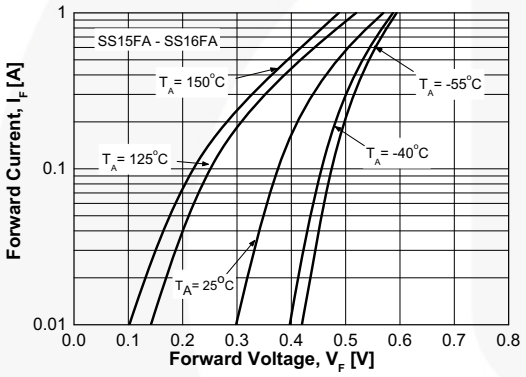


Figure 3. Typical Forward Characteristics

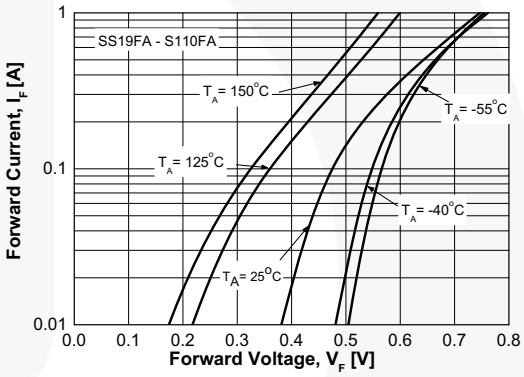


Figure 4. Typical Forward Characteristics

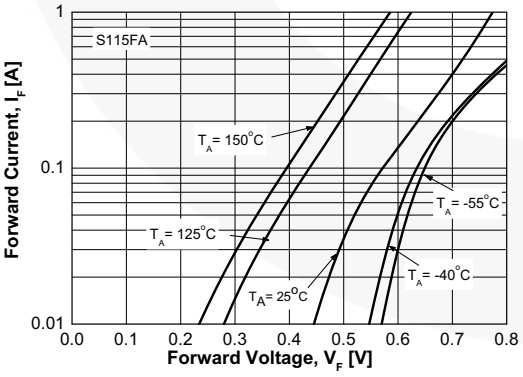


Figure 5. Typical Forward Characteristics

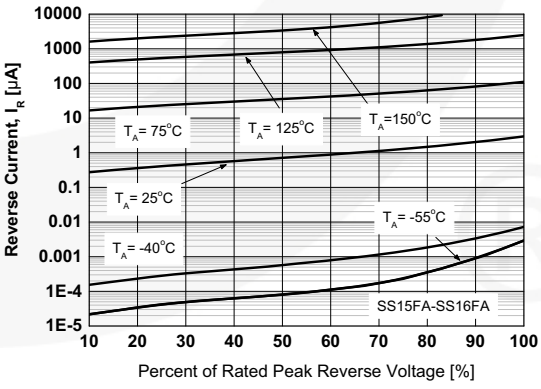


Figure 6. Typical Reverse Characteristics

Typical Performance Characteristics (Continued)

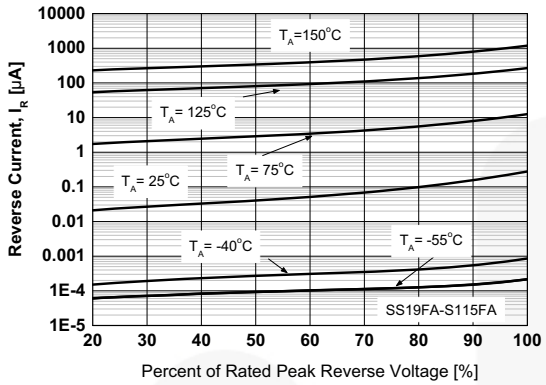


Figure 7. Typical Reverse Characteristics

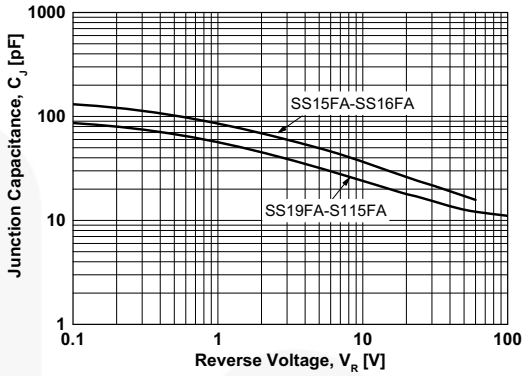
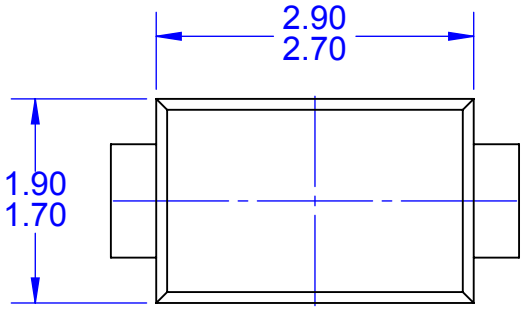
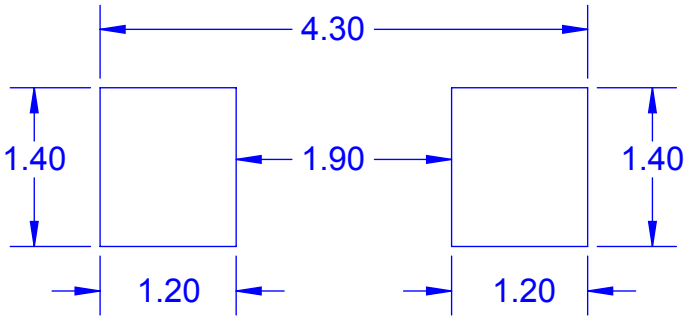


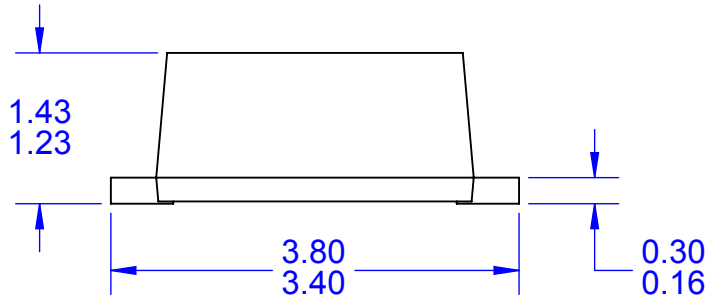
Figure 8. Typical Junction Capacitance



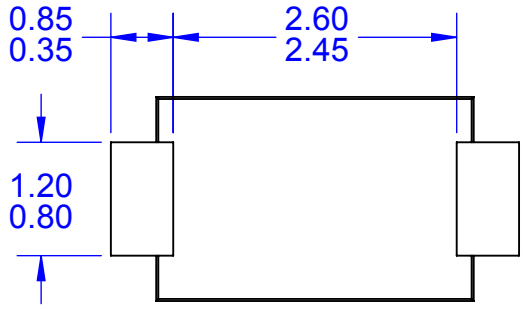
TOP VIEW



LAND PATTERN RECOMMENDATION



FRONT VIEW



BOTTOM VIEW

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