

Surface Mount Schottky Barrier Rectifiers

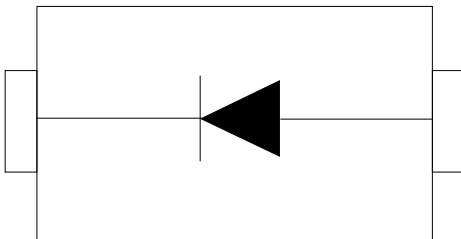
Description

General Application Schottky barrier rectifier, encapsulated in a SOD-123FL Surface-Mounted Device (SMD) plastic package.

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Built-in strain relief, ideal for automated placement
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 260°C/10 seconds at terminals

Dimensions and Pin Configuration



Graphic symbol

Package



SOD-123FL (Top View)

Mechanical Characteristics

- Case: JEDEC SOD-123FL molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Device meets MSL 1, per J-STD-020
- Polarity: Polarity symbol marking on body
- Case Material: “Green” Molding Compound

Applications

- Switch Mode Power Supply (SMPS)
- For use in low voltage high frequency inverters, freewheeling
- DC/DC converters, and polarity protection applications

Ordering Information

Part Number	Marking	Shipping	Reel Size
SS12D1F	K12	3000/Tape & Reel	7 inch
SS14D1F	K14	3000/Tape & Reel	7 inch
SS16D1F	K16	3000/Tape & Reel	7 inch
SS18D1F	K18	3000/Tape & Reel	7 inch
SS110D1F	K110	3000/Tape & Reel	7 inch
SS115D1F	K115	3000/Tape & Reel	7 inch
SS120D1F	K120	3000/Tape & Reel	7 inch

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Items	Symbol	SS12D1F	SS14D1F	SS16D1F	SS18D1F	SS110D1F	SS115D1F	SS120D1F	UNIT
Maximum repetitive peak reverse voltage	V _{RRM}	20	40	60	80	100	150	200	V
Maximum RMS voltage	V _{RMS}	14	28	42	56	70	105	140	V
Maximum DC blocking voltage	V _{DC}	20	40	60	80	100	150	200	V
Maximum average forward rectified current	I _{F(AV)}	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	30.0							A
Typical thermal resistance	R _{QJA}	85.0							℃/W
Operating junction temperature range	T _J	-55 ~ + 125			-55 ~ + 150				℃
Storage temperature range	T _{STG}	-55 ~ +150							℃

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Items	Test conditions	Symbol	SS12~14D1F	SS16D1F	SS18~110D1F	SS115~120D1F	UNIT
Maximum instantaneous forward voltage	I _F =1.0A	V _F	0.55	0.70	0.85	0.95	V
Maximum DC reverse current	T _A =25℃	I _R	0.2		0.05		mA
rated DC blocking voltage	T _A =100℃		20		5		

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

FIG.1-DERATING CURVE OUTPUT RECTIFIED CURRENT

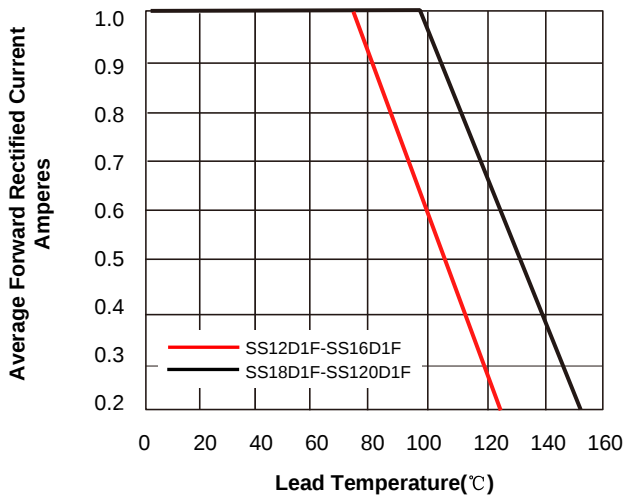


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD

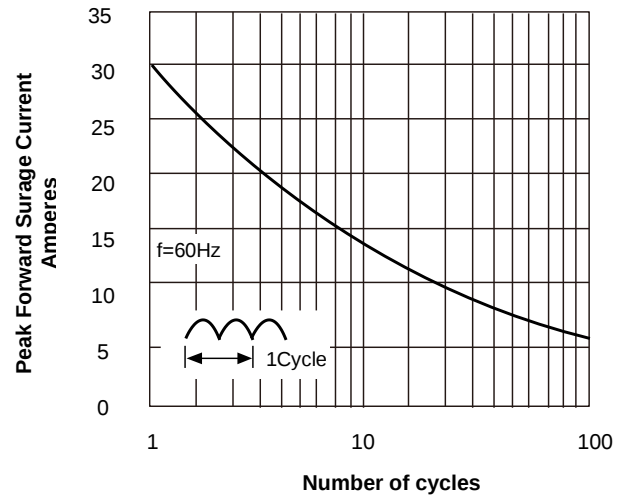


FIG.3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

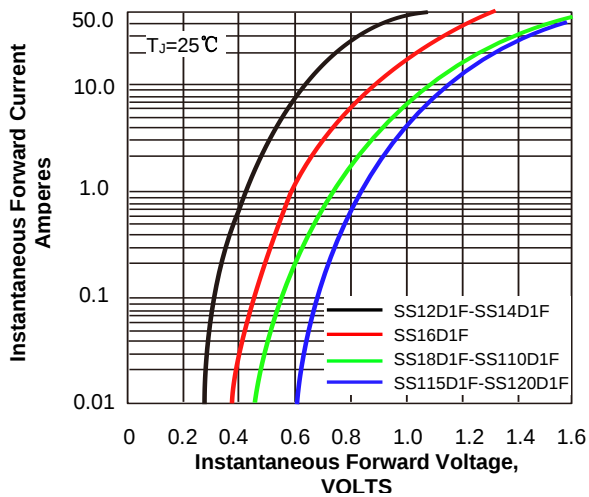
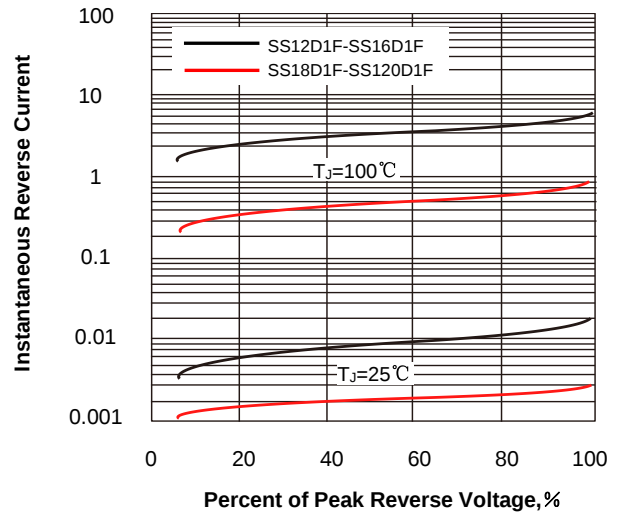
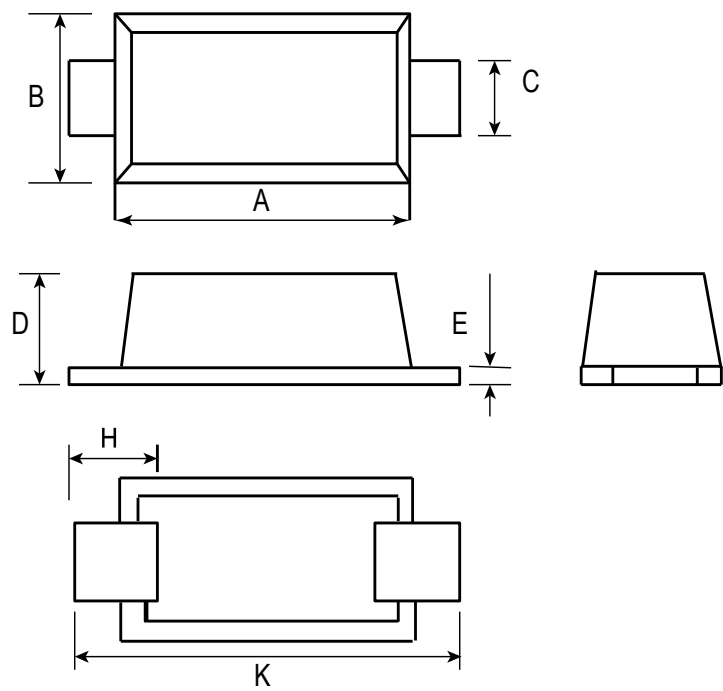


FIG.4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

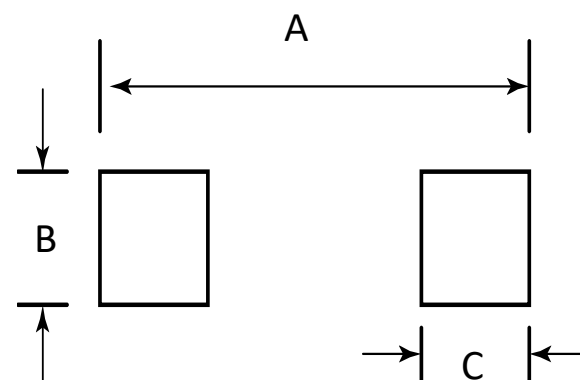


SOD-123FL Package Outline Drawing



DIM	Millimeters		
	Min	Nom	Max
A	2.60	2.80	3.00
B	1.60	1.80	2.00
C	0.80	1.00	1.20
D	0.9		1.30
E	0.10	0.20	0.30
H	0.35		0.85
K	3.50		4.00

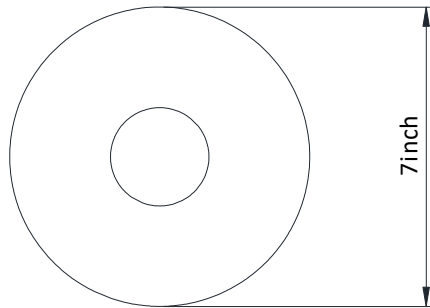
Suggested Land Pattern



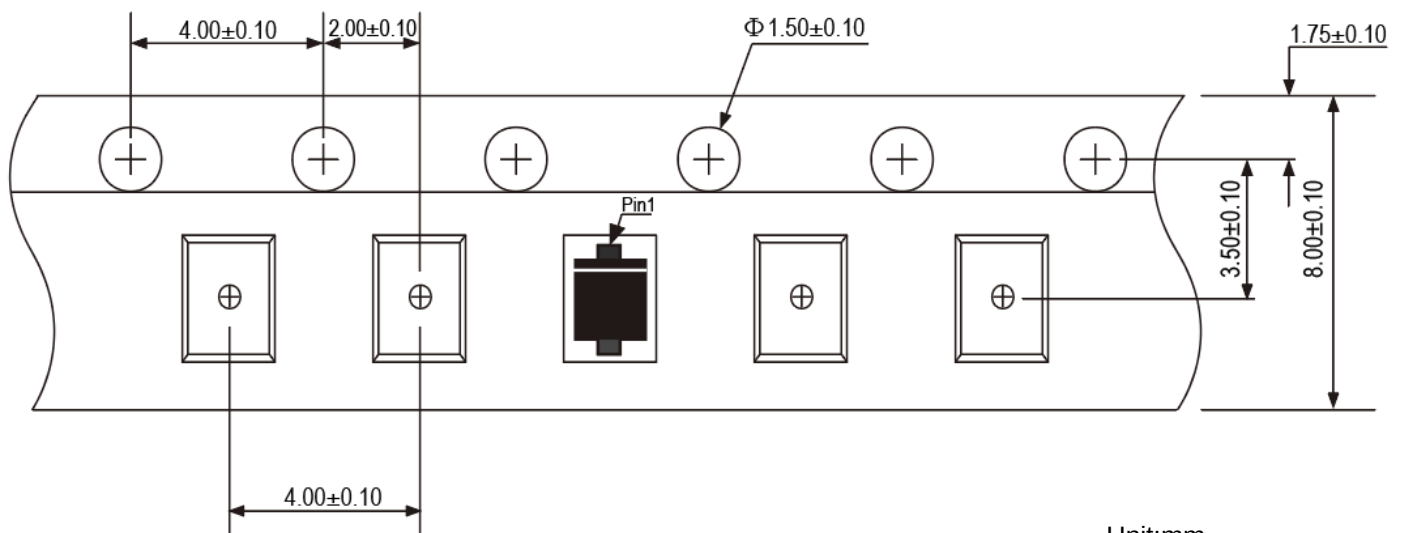
SYM	DIMENSIONS	
	MILLIMETERS	INCHES
A	4.19	0.165
B	1.20	0.048
C	0.90	0.036

TAPE AND REEL INFORMATION

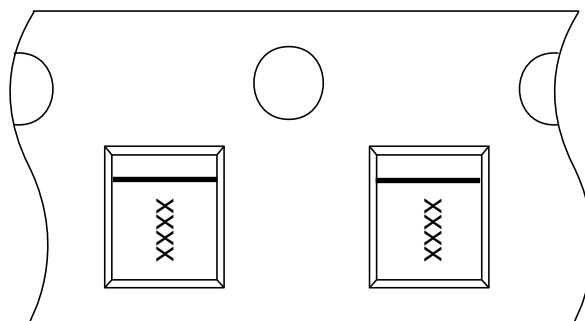
Reel Dimensions



Tape Dimensions



Unit:mm



→
User Direction of Feed

IMPORTANT NOTICE

The information given in this document is believed to be accurate and reliable but shall in no event be regarded as a guarantee of conditions or characteristics. PN-Silicon assumes no responsibility for any errors in this document, or for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of PN-Silicon.

The product listed in this document are designed to be used with ordinary electronic equipment or devices and are not authorized to used with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, aerospace machinery, nuclear-reactor controllers, automotive and other safety device.)

The  logo is a registered trademark of PN-Silicon co., ltd which reserves the right to make changes to the product or this document at any time without notice. Buyers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. PN-Silicon makes no warranty, representation or guarantee, express or implied, regarding the suitability of its products for any particular purpose. All rights reserved.