

## Surface Mount Schottky Barrier Rectifiers

SBD102D1~SBD120D1

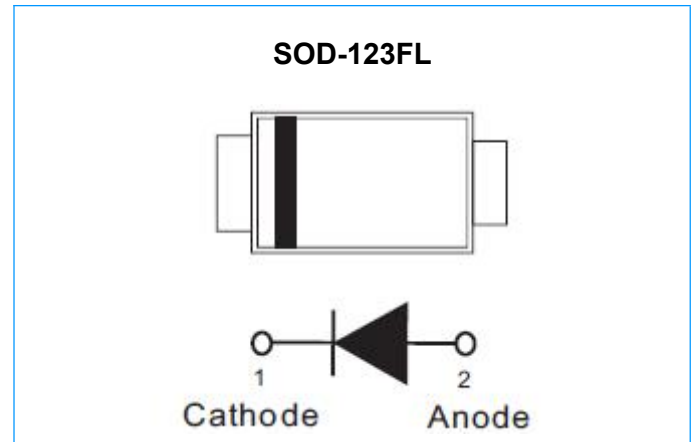
20 to 200 V

1A

SOD-123FL

### Features

- ◆ Fast switching speed
- ◆ Surface mount package ideally suited for automatic insertion
- ◆ Low power loss, high efficiency
- ◆ Lead free in compliance with EU RoHS 2.0
- ◆ Green molding compound as per IEC 61249 standard



### Mechanical Data

- ◆ Case: SOD-123FL, Plastic
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Apprx. Weight: 0.0006 ounces, 0.0173 grams
- ◆ Polarity: Color band denotes cathode end

### Electrical and Thermal Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	SBD102D1	SBD103D1	SBD104D1	SBD106D1	SBD110D1	SBD115D1	SBD120D1	Unit
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	20	30	40	60	100	150	200	V
Maximum RMS Voltage	V <sub>RMS</sub>	14	21	28	42	70	105	140	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	20	30	40	60	100	150	200	V
Average Rectified Current	I <sub>F(AV)</sub>	1							A
Forward Current RMS, D=0.5	I <sub>F(RMS)</sub>	2							A
Non-repetitive Peak Forward Surge Current at t=8.3ms	I <sub>FSM</sub>	40					30		A
Maximum Forward Voltage at I <sub>F</sub> =1A	V <sub>F</sub>	0.55		0.7	0.8	0.85		V	
Reverse Leakage Current at V <sub>RRM</sub>	I <sub>R</sub>	30							μA
Typical Thermal Resistance	(Note 1)	R <sub>θJC</sub>							°C/W
	(Note 2)	R <sub>θJA</sub>							
Typical Junction Capacitance Rating at V <sub>R</sub> =0V	C <sub>J</sub>	155		125	100	85		pF	
Operating Junction Temperature and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

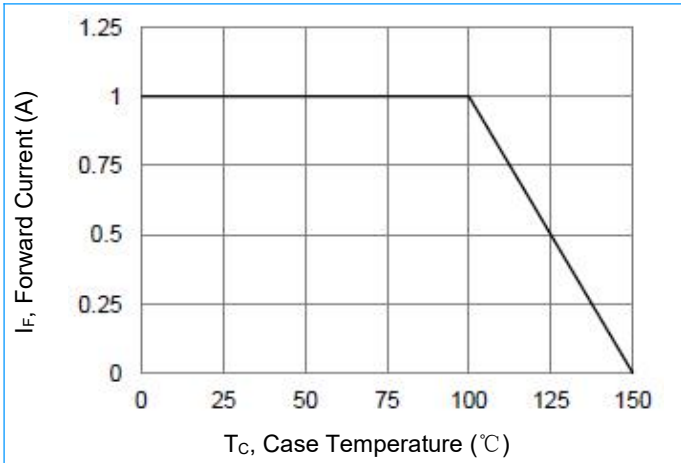
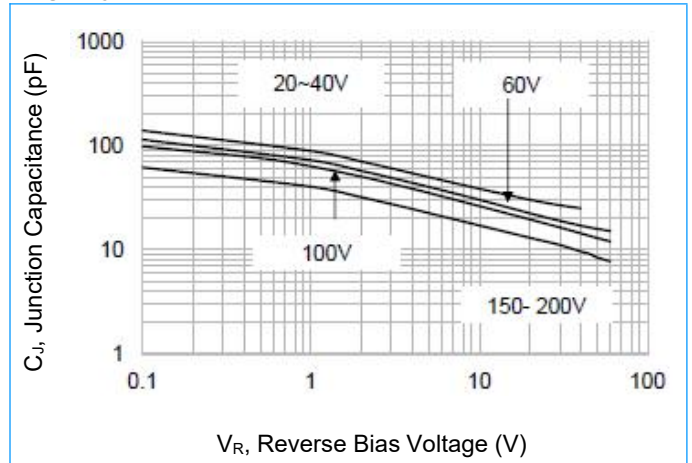
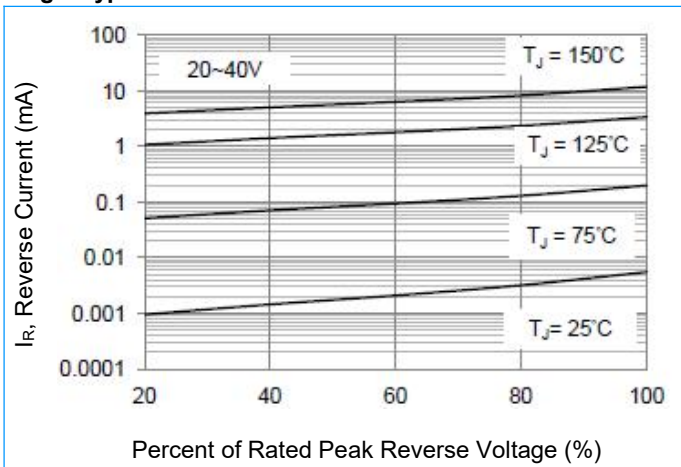
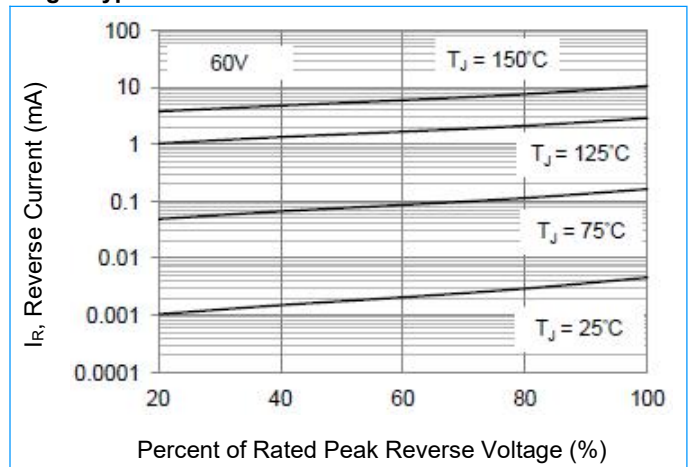
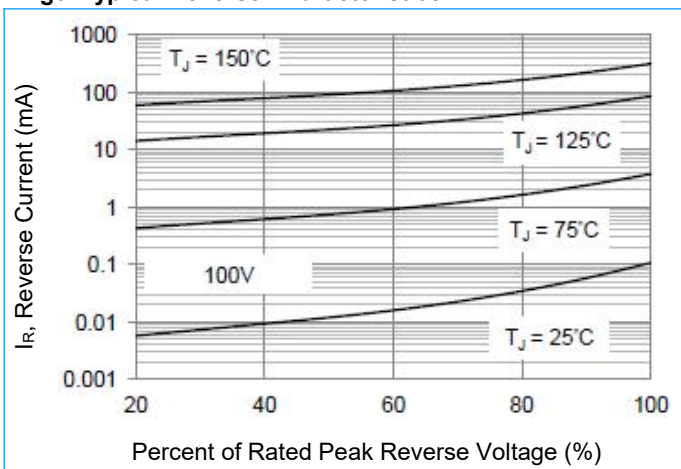
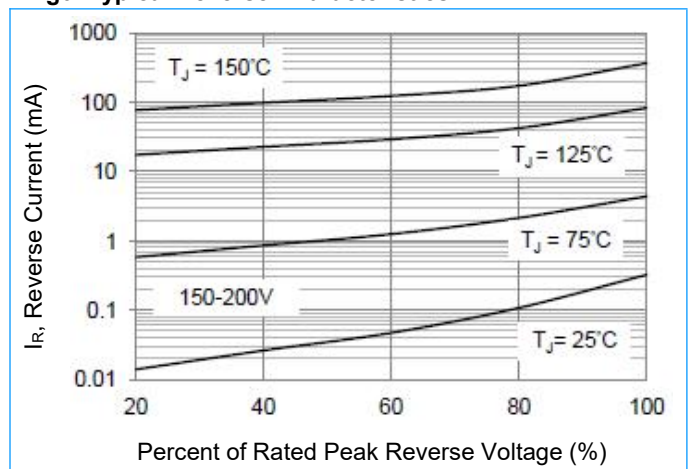
**Notes:** 1. Mounted on a FR4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area.

2. Mounted on a FR4 PCB, single-sided copper, mini pad.

# Surface Mount Schottky Barrier Rectifiers

**SBD102D1~SBD120D1**
**20 to 200 V**
**1A**
**SOD-123FL**

## Rating and Characteristic Curves

**Fig1. Forward Current Derating Curve**

**Fig2. Typical Junction Capacitance**

**Fig3. Typical Reverse Characteristics**

**Fig4. Typical Reverse Characteristics**

**Fig5. Typical Reverse Characteristics**

**Fig6. Typical Reverse Characteristics**


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## Rating and Characteristic Curves (Continue)

Fig7. Typical Forward Characteristics

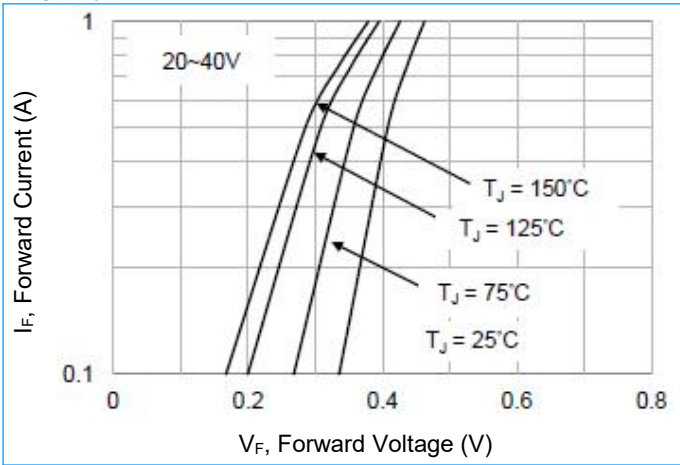


Fig8. Typical Forward Characteristics

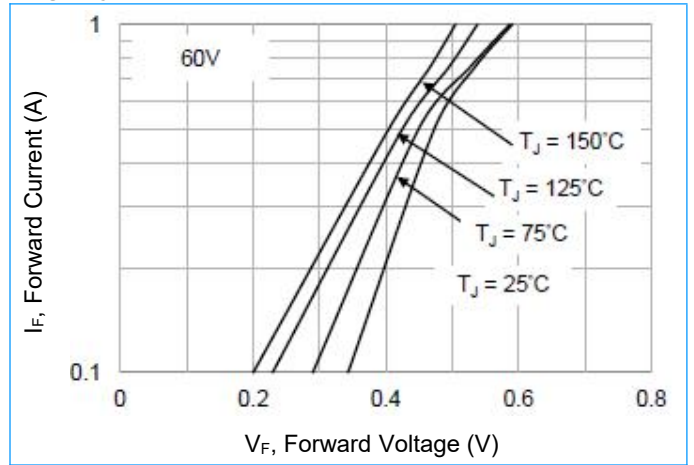


Fig9. Typical Forward Characteristics

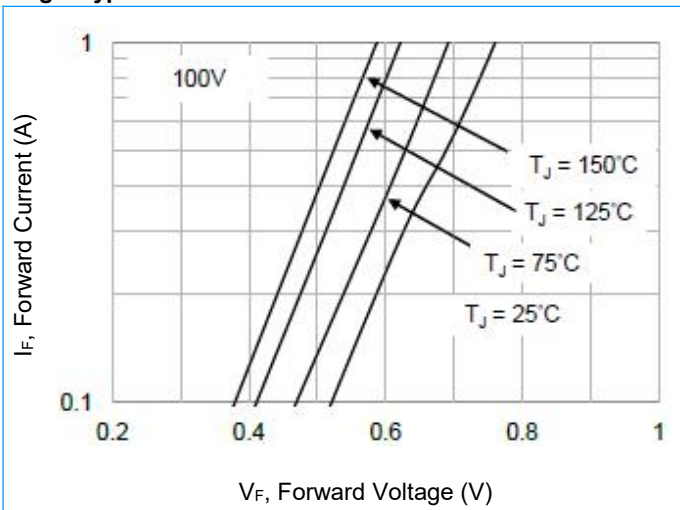


Fig10. Typical Forward Characteristics

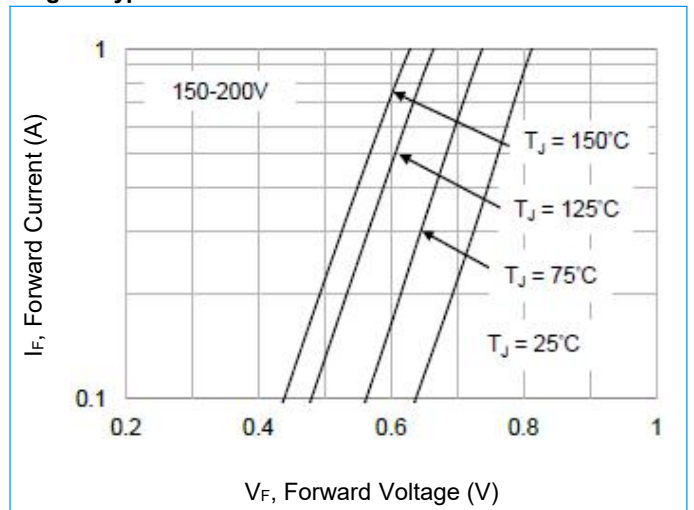
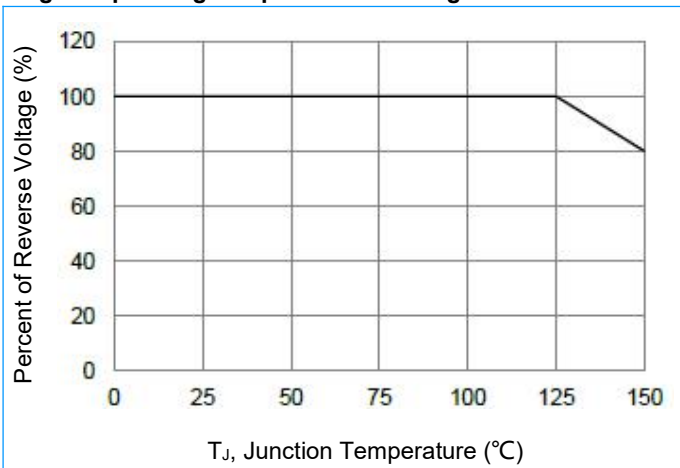


Fig11. Operating Temperature Derating Curve



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SBD102D1~SBD120D1

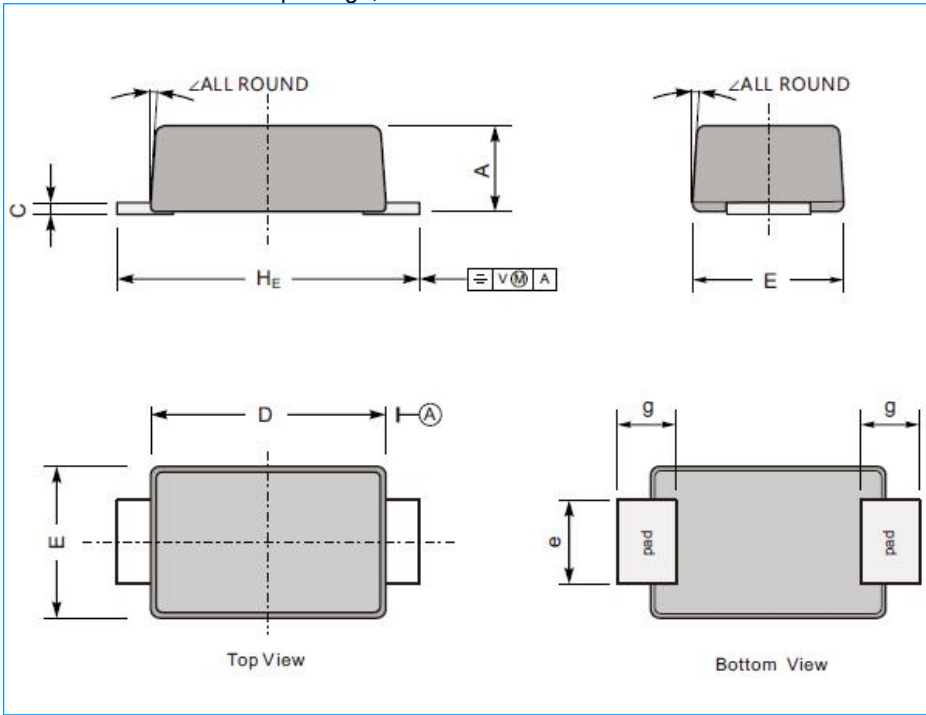
20 to 200 V

1A

SOD-123FL

### SOD-123FL Package Outline (Unit: inch(mm))

Plastic surface mounted package; 2 leads



Symbol	mm		mil	
	max	min	max	min
A	1.1	0.9	43	35
C	0.20	0.12	7.9	4.7
D	2.9	2.6	114	102
E	1.9	1.7	75	67
e	1.1	0.8	43	31
g	0.9	0.7	35	28
He	3.8	3.5	150	138
∠	7°			

### Packaging Information

Part Number	Component Package	Quantity	Packaging Option
SBD102D1~SBD120D1	SOD-123FL	10000 PCS	per 13" plastic Reel
		3000 PCS	per 7" plastic Reel