

Reverse Voltage - 30 V  
Forward Current - 3.0A

### Features

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

### MECHANICAL DATA

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 15mg 0.00048oz

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View

Simplified outline SOD-123FL and symbol

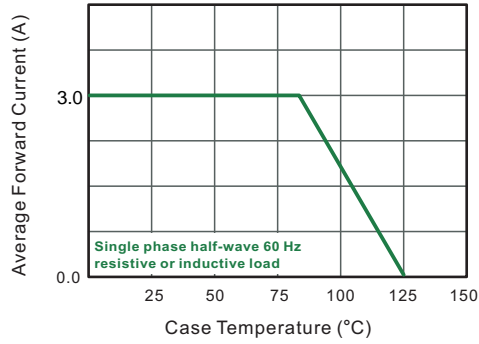
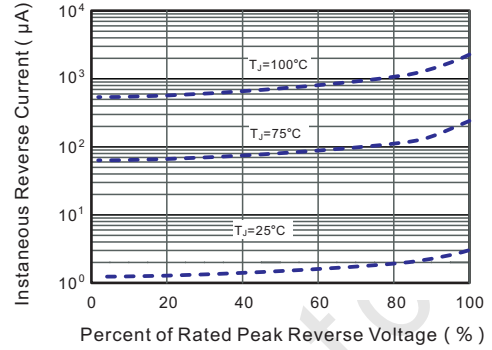
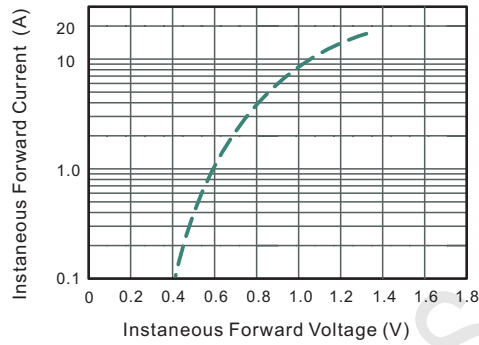
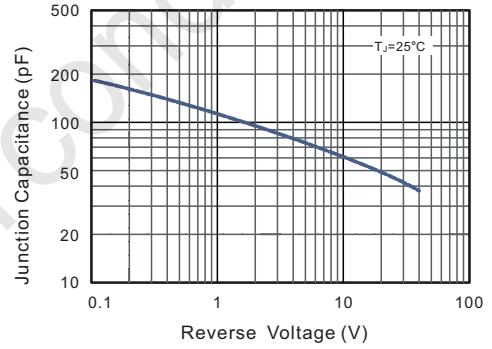
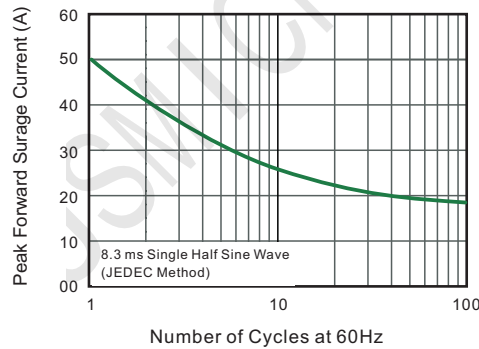
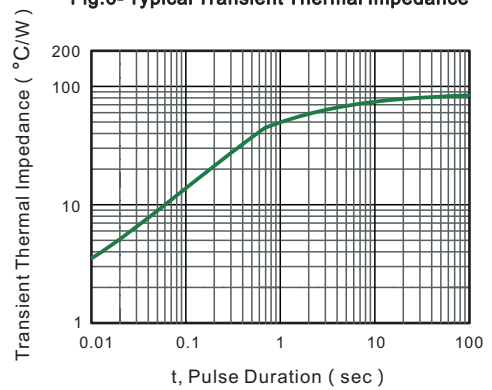
### Absolute Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

Parameter	Symbols	SBR3U30P1	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	30	V
Maximum RMS voltage	$V_{RMS}$	42	V
Maximum DC Blocking Voltage	$V_{DC}$	30	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	3.0	A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	50	A
Max Instantaneous Forward Voltage at 2 A	$V_F$	0.70	V
Maximum DC Reverse Current at Rated DC Reverse Voltage	$I_R$	0.5 5	mA
Typical Junction Capacitance <sup>(1)</sup>	$C_j$	220	pF
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	85	°C/W
Operating Junction Temperature Range	$T_j$	-55 ~ +125	°C
Storage Temperature Range	$T_{stg}$	-55 ~ +150	°C

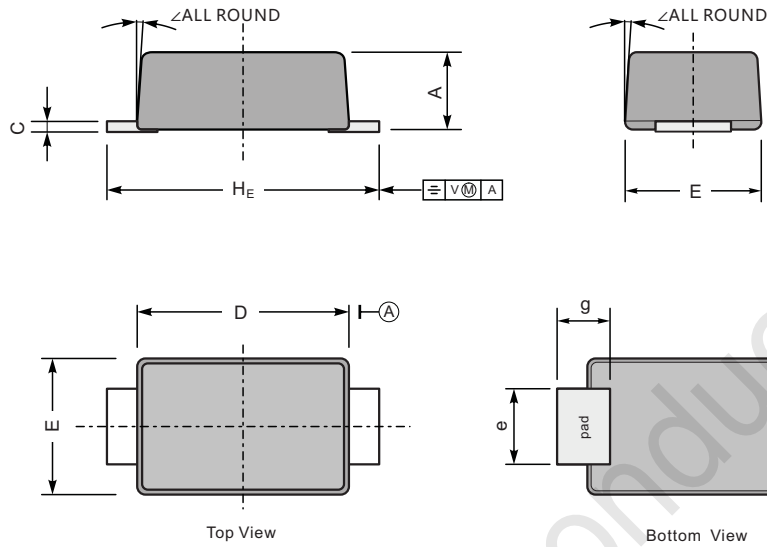
( 1 ) Measured at 1 MHz and applied reverse voltage of 4 V D.C

( 2 ) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

**Fig.1 Forward Current Derating Curve**

**Fig.2 Typical Reverse Characteristics**

**Fig.3 Typical Forward Characteristic**

**Fig.4 Typical Junction Capacitance**

**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**

**Fig.6- Typical Transient Thermal Impedance**


**PACKAGE OUTLINE**

Plastic surface mounted package; 2 leads

**SOD-123FL**


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

**The recommended mounting pad size**
