

# FrelTec

Mathildenstr. 10A  
82319 Starnberg  
Germany

Fast Recovery Rectifier  
SOD123

## SOD123

## SPECIFICATION

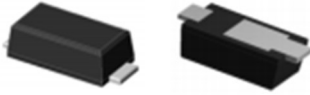
68B	PF127xxxxx	SD13	E03
Type	Type	Package	Packing
68B: Fast Recovery Rectifier	PF127	SOD123	E03: tape in Embossed tape and reel for 3000 pc (7'REEL)

All products according to RoHS (2015/863/EU)

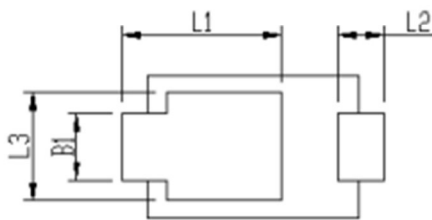
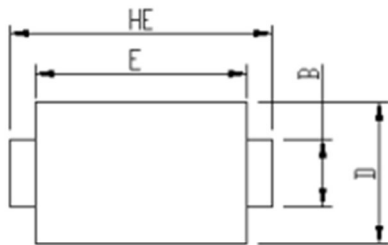
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PACKAGE OUTLINE

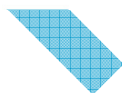
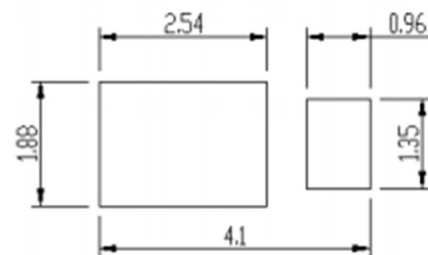


iSGA  
(SOD-123HS)



Package	iSGA	
Unit:mm	MIN	MAX
A	0.75	0.90
B	0.85	1.05
B1	0.85	1.05
C	0.1	0.25
D	1.9	2.1
E	2.9	3.1
L1	2.0	2.45
L2	0.4	0.85
L3	1.3	1.7
HE	3.5	3.9

Soldering footprint



## SOD123

## Fast Recovery Rectifier

## Maximum Ratings &amp; Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	PF127	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	1000	V
Maximum RMS voltage	$V_{RMS}$	700	V
Maximum DC blocking voltage	$V_{DC}$	1000	V
Maximum average forward rectified current	$I_{F(AV)}$	1,2	A
Peak forward surge current 8,3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	40	Amps
Rating for fusing( $t < 8,3ms$ )	$I^2t$	6,7	A <sup>2</sup> sec
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150	°C

Parameter	Test condition	Symbols	PF127	Unit
Maximum breakdown voltage	$T_A=25^\circ C, I_R=100\mu A$	VBR	1000	Volts
Maximum instantaneous forward voltage	$I_F=1,2A, T_A=25^\circ C$	VF	1,3	V
	$I_F=1,2A, T_A=125^\circ C$		0,98	
Maximum DC reverse current at rated DC blocking voltage	$T_A=25^\circ C$	IR	5,0	uA
	$T_A=125^\circ C$		50	
Maximum reverse recover time	$I_F=0,5A, I_R=1,0A$ $I_{rr}=0,25A$	trr	250	nS
Typical junction capacitance	4,0V, 1 MHz	CJ	7,5	pF
Typical thermal resistance <sup>(1)</sup>	Junction to ambient	$R_{\theta JA}^{(1)}$	63	°C/W
	Junction to case	$R_{\theta JC}^{(1)}$	9	
	Junction to mount	$R_{\theta JM}^{(2)}$	39	

Note: 1). The thermal resistance from junction to ambient or lead, mounted on P.C.B with 5X5mm copper pads, 2 OZ, FR4 PCB

2). The thermal resistance from junction to case, case or mount, mounted on P.C.B with recommended copper pads, 2 OZ, FR4 PCB

# SOD123

Rating and Characteristics curves

(TA=25°C unless otherwise noted)

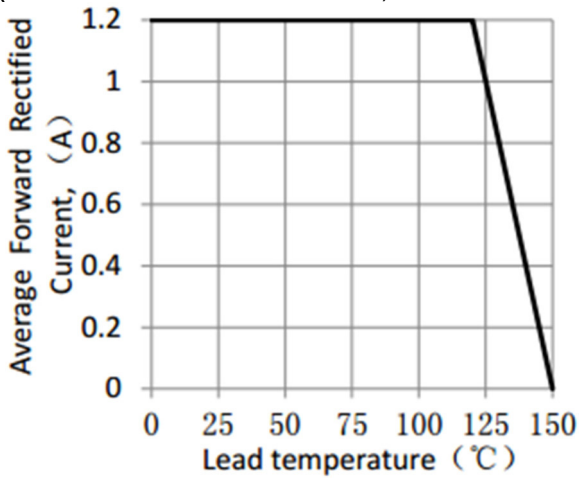


Figure 1. Forward Current Derating Curve

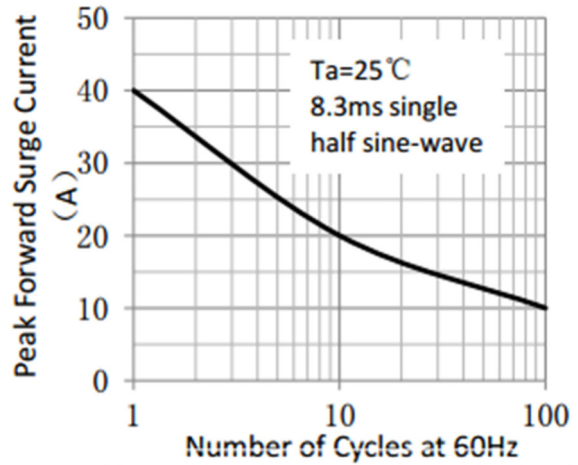


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

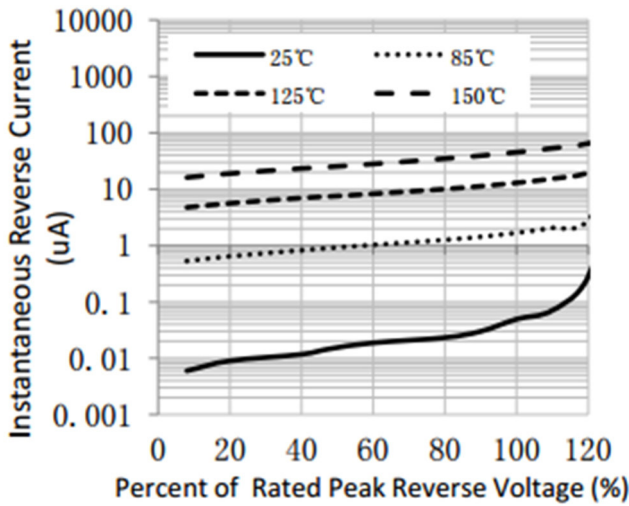


Figure 3. Typical Reverse Characteristics

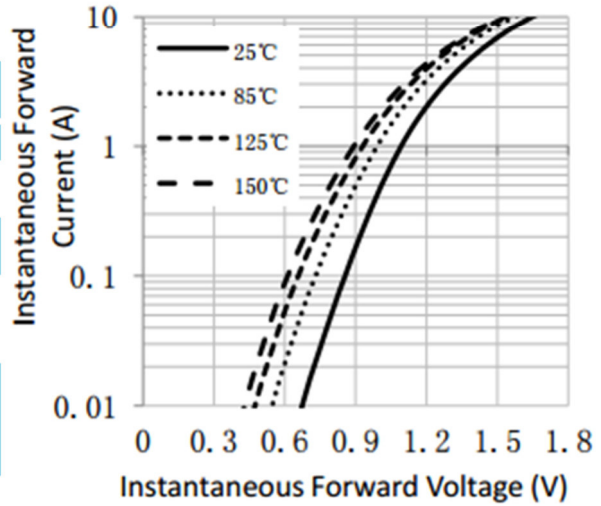


Figure 4. Typical Instantaneous Forward Characteristics

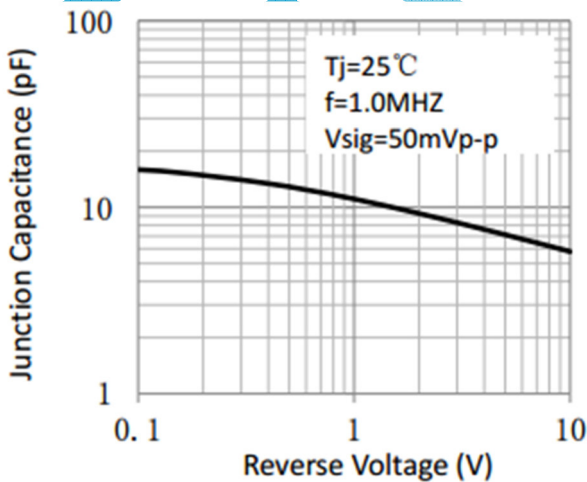
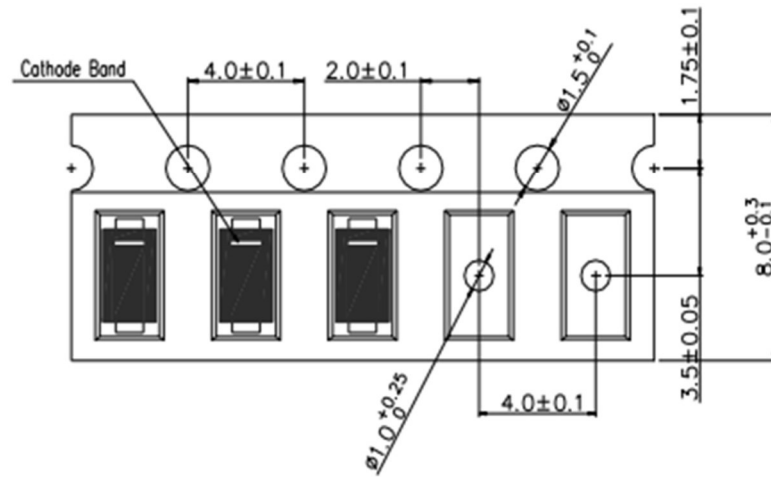


Figure 5. Typical Junction Capacitance

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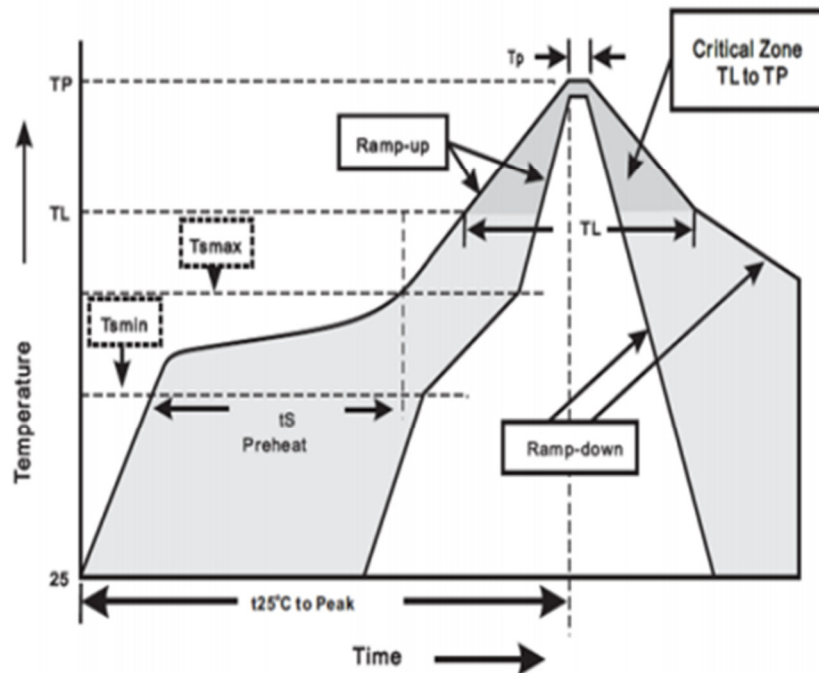
Size (Unit:mm)

Tape & Reel Specification



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**Soldering Parameters**



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**Stock period**

The performance of these products, including the solderability, is guaranteed for 12 month, provided that they remain packed as they were when delivered and stored at a temperature of 20-30°C and a relative humidity 20-60%RH

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