

SOD123 Plastic-Encapsulate Diodes

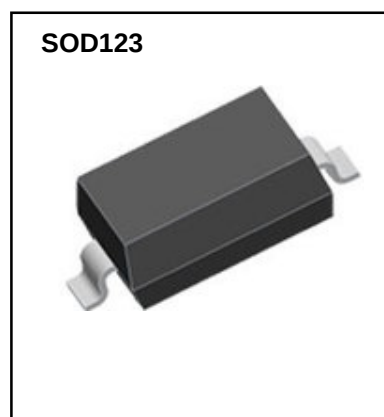
Rectification Diode

Features

- I_o 1A
- V_{RRM} 600V
- High surge current capability
- Smoothly soft reverse recovery time(t_{rr})
- Low profile surface mounted package in order to minimize board space
- Pb-free lead plating and halogen-free package

Marking

- F106



Limiting Values (Absolute Maximum Rating)

Symbol	Parameter	Value	Unit
V_{RM}	Non-repetitive peak reverse voltage	600	V
V_R	Reverse Voltage		
$V_{R(RMS)}$	RMS reverse voltage	420	V
I_o	Average rectified output current	1	A
I_{FSM}	Non-repetitive peak forward surge current @ $t=8.3ms$	10	A
P_D	Power dissipation	350	mW
$R_{\theta JA}$	Thermal resistance from junction to ambient	233	°C/W
$R_{\theta JC}$	Thermal resistance from junction to case	130	°C/W
T_J	Junction temperature	150	°C
T_{stg}	Storage temperature	-55~+150	°C

Electrical Characteristics ($T_a=25^{\circ}C$ Unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	V_R	$I_R=100\mu A$	600			V
Reverse current	I_R	$V_R=540V$			0.1	μA
Forward voltage	V_F	$I_F=100mA$			0.95	V
		$I_F=500mA$			1.2	V
Reverse recovery time	t_{rr}	$I_F=500mA, I_R=1A, I_{rr}=0.25A$			3	us
Total capacitance	C_{tot}	$V_R=1V, f=1MHz$		8		pF

Notes:

Thermal resistance from junction to ambient and from junction to case mounted on 1" x 1"(25.4mm x 25.4mm) FR4 PCB, double sided copper, with minimum pad layout

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

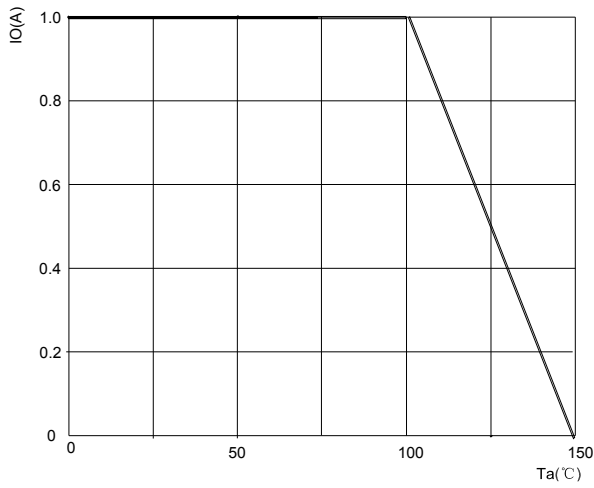


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

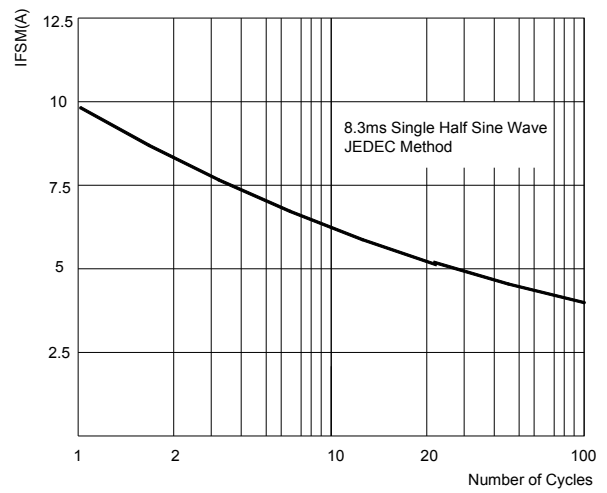


FIG3:TYPICAL FORWARD CHARACTERISTICS

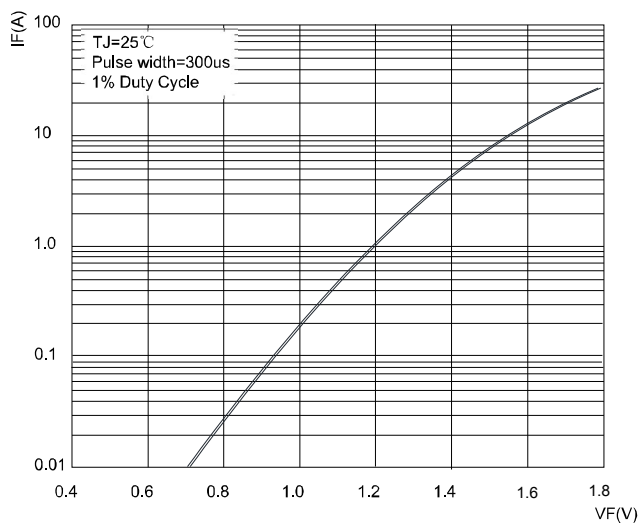
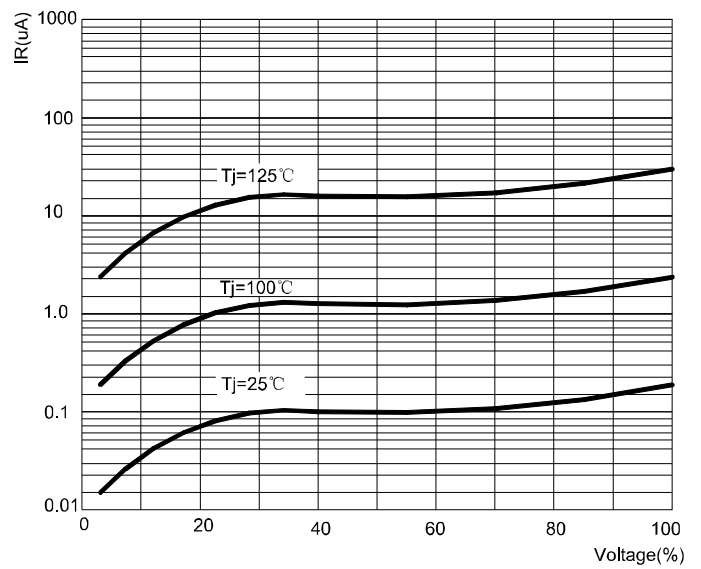
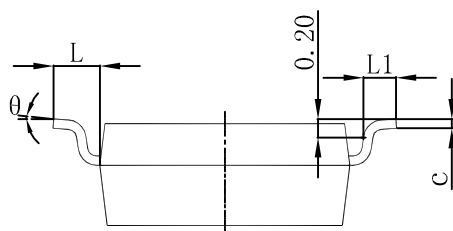
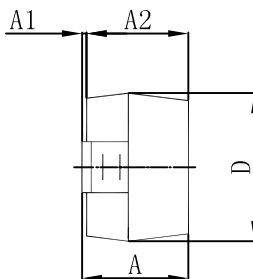
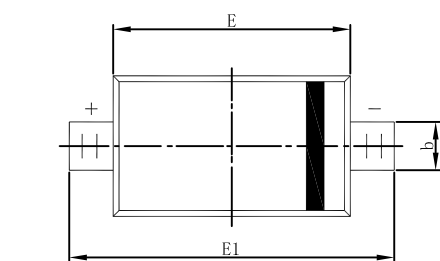


FIG.4:TYPICAL REVERSE CHARACTERISTICS

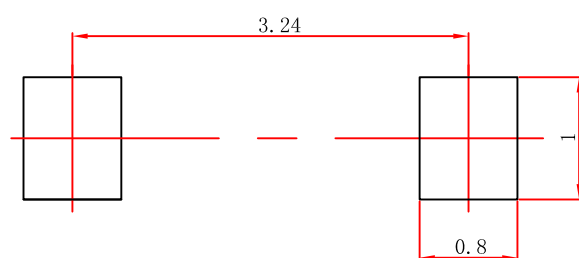


SOD-123 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

SOD-123 Suggested Pad Layout



Note:

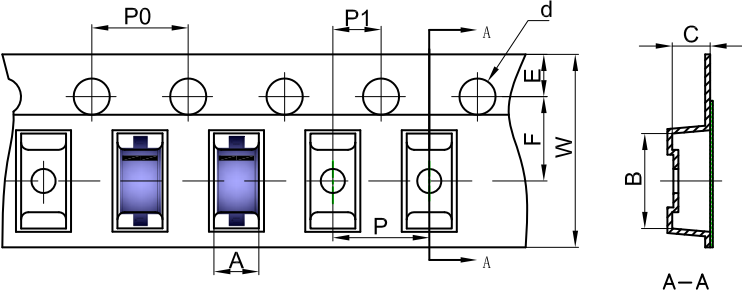
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

JSHD reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSHD does not assume any liability arising out of the application or use of any product described herein.

Reel Taping Specifications For Surface Mount Devices-SOD123

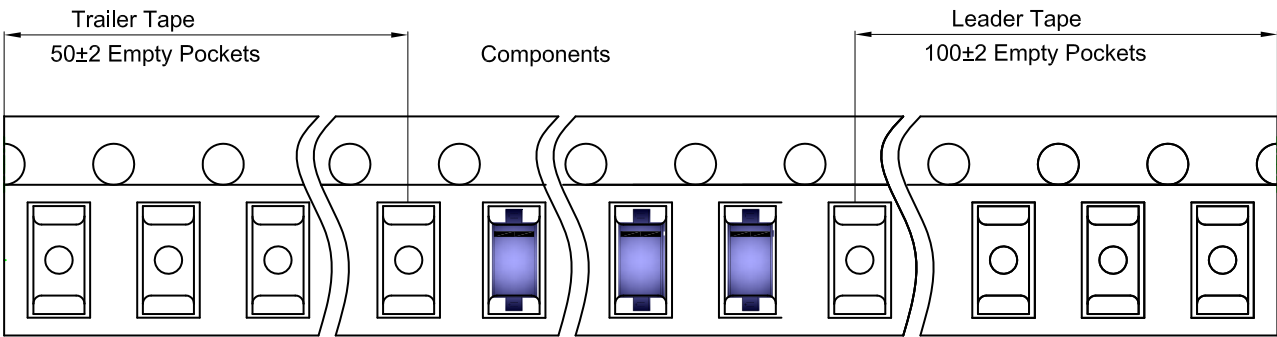
SOD-123 Embossed Carrier Tape



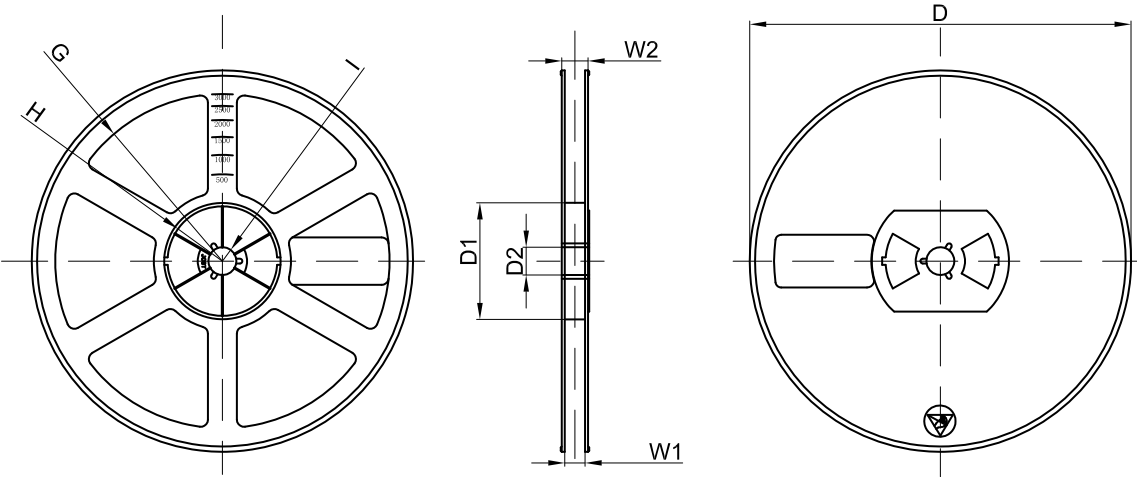
Packaging Description:
SOD-123 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOD-123	1.85	3.95	1.57	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00

SOD-123 Tape Leader and Trailer



SOD-123 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	