

SOD-123FL Plastic-Encapsulate Diodes

Super Fast Recovery Rectifier Diode

Features

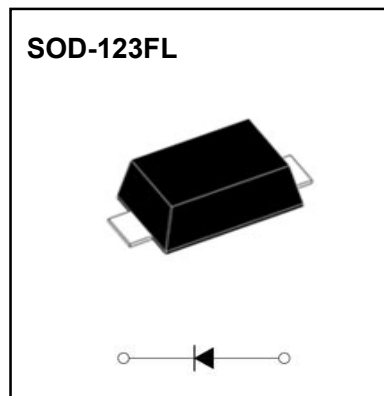
- I_o 1A
- V_{RRM} 50V-600V
- High surge current capability
- Glass passivated chip
- Polarity: Color band denotes cathode

Applications

- Rectifier

Marking

- ES1AL-ES1DL : ESL
- ES1EL-ES1GL : ESM
- ES1JL : ESH



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	ES1						
				AL	BL	CL	DL	EL	GL	JL
Repetitive Peak Reverse Voltage	V_{RRM}	V		50	100	150	200	300	400	600
Maximum RMS Voltage	V_{RMS}	V		35	70	105	140	210	280	420
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load $T_a=90^\circ\text{C}$	1.0						
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave , 1 cycle , $T_a=25^\circ\text{C}$	30						
Junction Temperature	T_J	$^\circ\text{C}$		-55~+150						
Storage Temperature	T_{STG}	$^\circ\text{C}$		-55 ~ +150						

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

Item	Symbol	Unit	Test Condition	ES1						
				AL	BL	CL	DL	EL	GL	JL
Peak Forward Voltage	V_F	V	$I_F=1.0\text{A}$	0.95			1.25		1.70	
Maximum reverse recovery time	t_{rr}	ns	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_{tr}=0.25\text{A}$	35						
Peak Reverse Current	I_{RRM1}	μA	$V_{RM}=V_{RRM}$	$T_a=25^\circ\text{C}$						
	I			$T_a=125^\circ\text{C}$						
Thermal Resistance(Typical)	$R_{\theta J-A}$	$^\circ\text{C/W}$	Between junction and ambient				70 ¹⁾			
	$R_{\theta J-L}$		Between junction and terminal				25 ¹⁾			

Notes:

- (1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm*3mm copper pad areas.

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

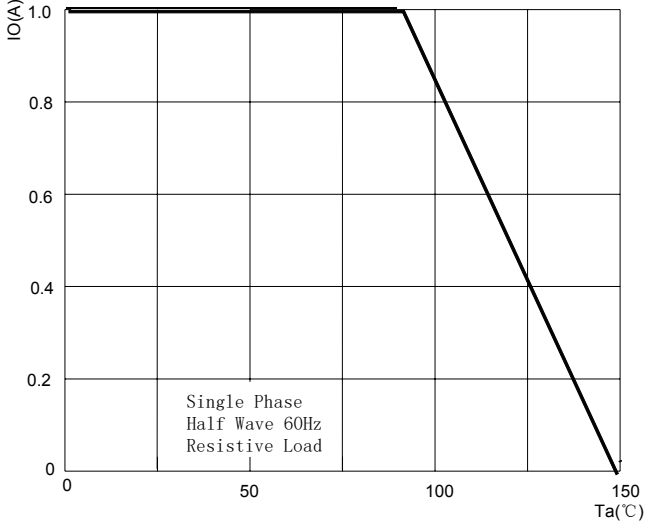


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

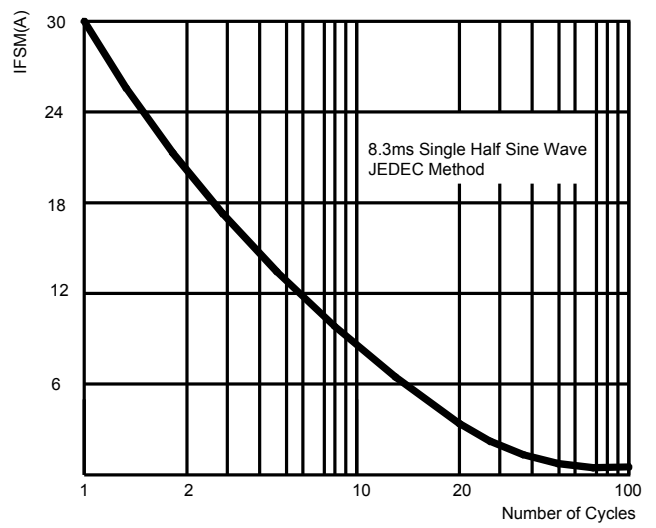


FIG.3: TYPICAL FORWARD CHARACTERISTICS

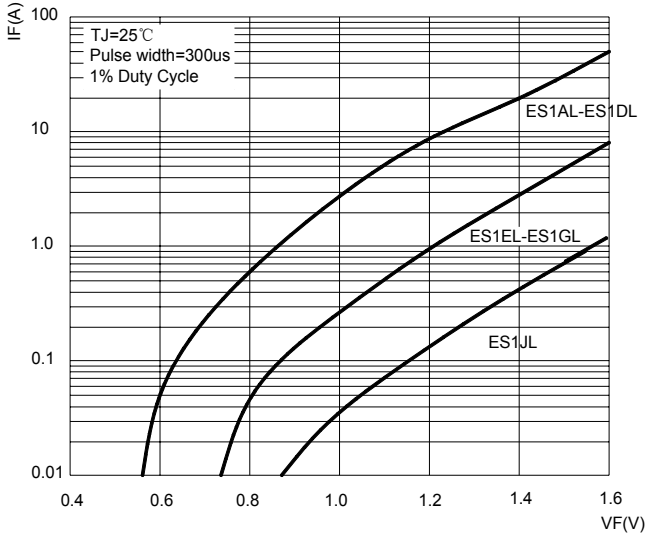


FIG.4: TYPICAL REVERSE CHARACTERISTICS

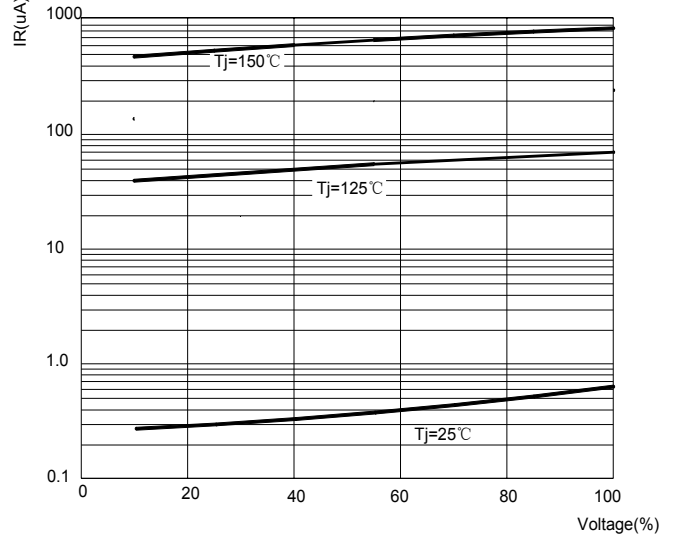
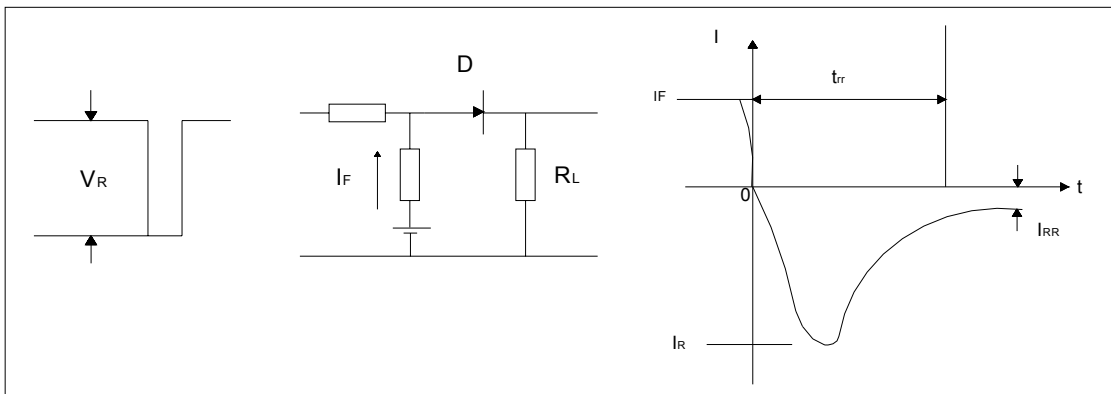
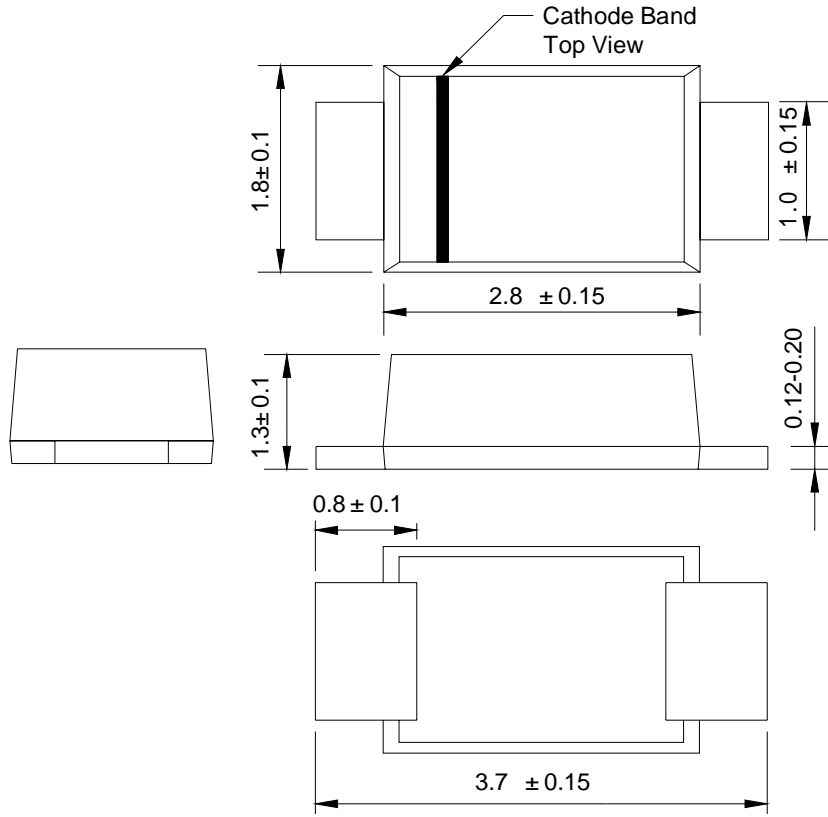


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

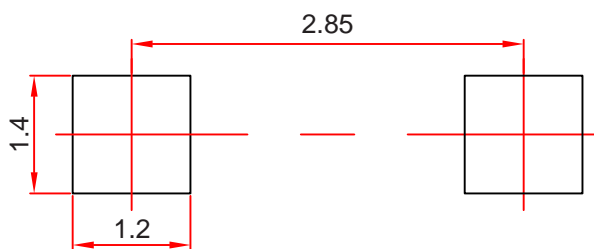


SOD-123FL Package Outline Dimensions



Dimensions in millimeters

SOD-123FL Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 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–SOD-123FL

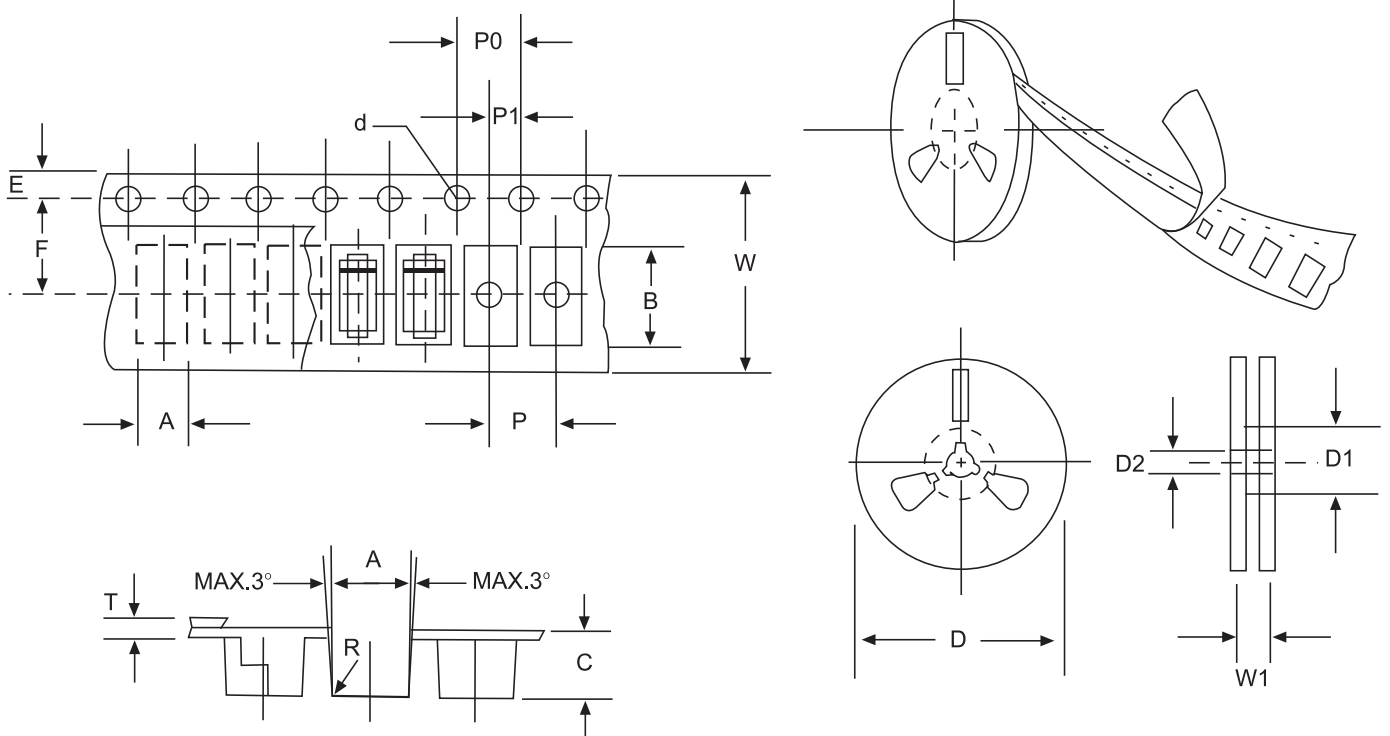


FIG:CONFIGURATION OF AXIAL TAPING

ITEM	SYMBOL	SOD-123FLmm(inch)
Carrier width	A	2.05±0.1(0.081±0.004)
Carrier length	B	3.95±0.1(0.156±0.004)
Carrier depth	C	1.45±0.1(0.057±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	280/178±2.0(11/7.0±0.079)
Reel inner diameter	D1	50±0.2(1.969±0.008)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Sprocket hole position	E	1.75±0.1(0.069±0.004)
Punch hole position	F	3.50±0.1(0.138±0.002)
Punch hole pitch	P	4.0±0.1(0.157±0.004)
Sprocket hole pitch	P0	4.0±0.1(0.157±0.004)
Embossment center	P1	2.0±0.1(0.079±0.004)
Total tape thickness	T	0.21±0.25(0.008±0.010)
Tape width	W	8.0±0.2(0.315±0.008)
Reel width	W1	10.0±2.0(0.394±0.079)

NOTE: Devices are packed in accordance with EIA standard RS-481-A and specification given above.