

SOD-123FL Plastic-Encapsulate Diodes

Super Fast Recovery Rectifier Diodes

Features

- $I_{F(AV)}$ 1A
- V_{RRM} 50V-1000V
- High surge current capability
- Polarity: Color band denotes cathode

SOD-123FL



Applications

- Rectifier

Marking

- ES1AS:E1A; ES1BS:E1B; ES1DS:E1D;
- ES1ES:E1E; ES1GS:E1G; ES1JS:E1J;
- ES1KS:E1K; ES1MS:E1M;

Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	ES1							
				AS	BS	DS	ES	GS	JS	KS	MS
Repetitive Peak Reverse Voltage	V _{RRM}	V		50	100	200	300	400	600	800	1000
Maximum RMS Voltage	V _{RMS}	V		35	70	140	210	280	420	560	700
Average Forward Current	I _{F(AV)}	A	60Hz Half-sine wave, Resistance load, Ta=110℃	1.0							
Surge(Non-repetitive)Forward Current	I _{FSM}	A	60Hz Half-sine wave, 1 cycle, Ta=25℃	30							
Operation Junction and Storage Temperature Range	T _J ,T _{STG}	℃		-55 ~ +150							

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

Item	Symbol	Unit	Test Condition		ES1							
					AS	BS	DS	ES	GS	JS	KS	MS
Peak Forward Voltage	V _F	V	I _F =1.0A		0.875			1.25		1.60		
Maximum reverse recovery time	t _{rr}	ns	I _F =0.5A,I _R =1.0A,I _{rr} =0.25A		35						50	
Peak Reverse Current	I _{RRM1}	μA	V _{RM} =V _{RRM}	T _a =25℃	5							
	T _a =100℃			100								
Thermal Resistance(Typical)	R _{θJ-A}	℃/W	Between junction and ambient		55							
	R _{θJ-L}		Between junction and terminal		25							

Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

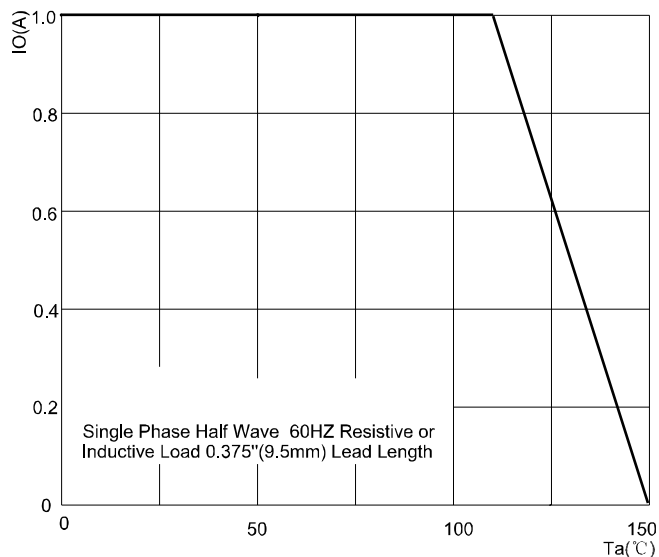


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

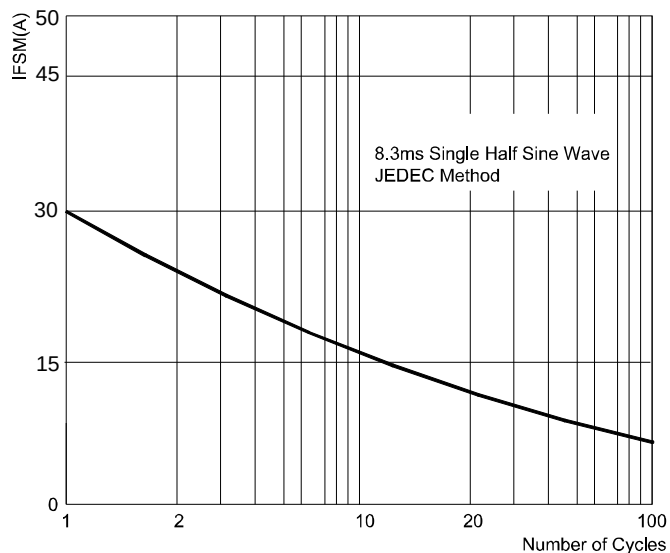


FIG.3: TYPICAL FORWARD CHARACTERISTICS

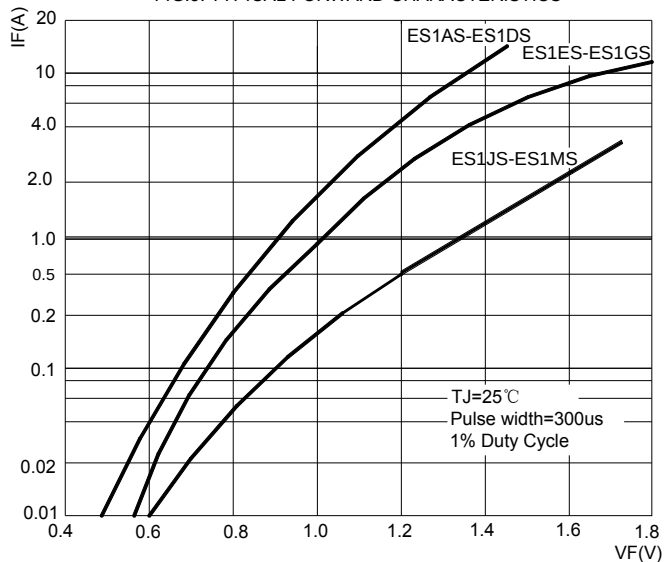


FIG.4: TYPICAL REVERSE CHARACTERISTICS

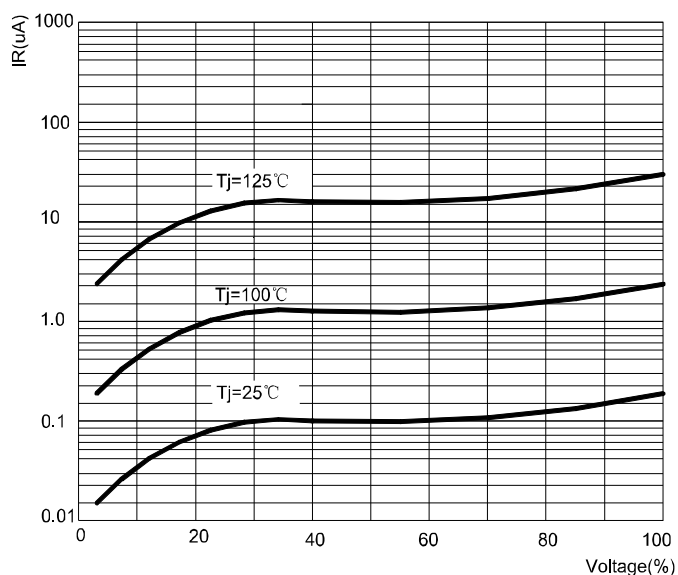
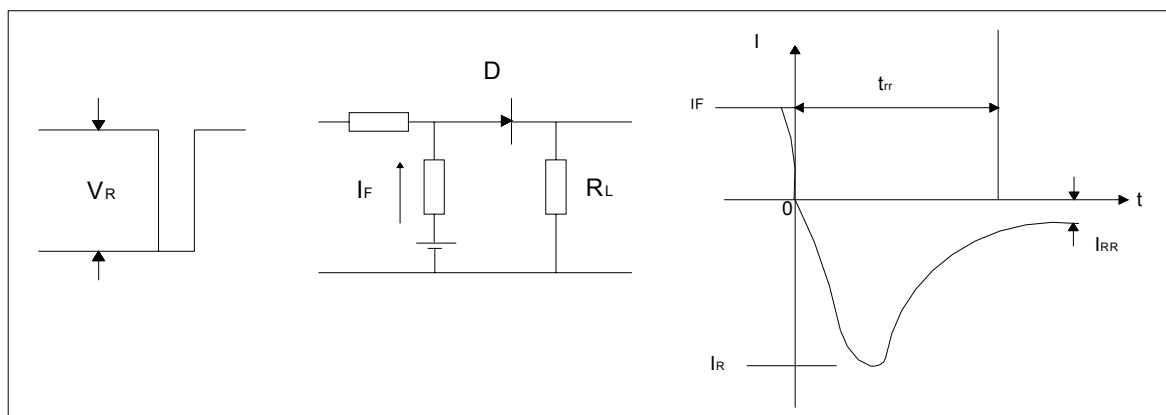
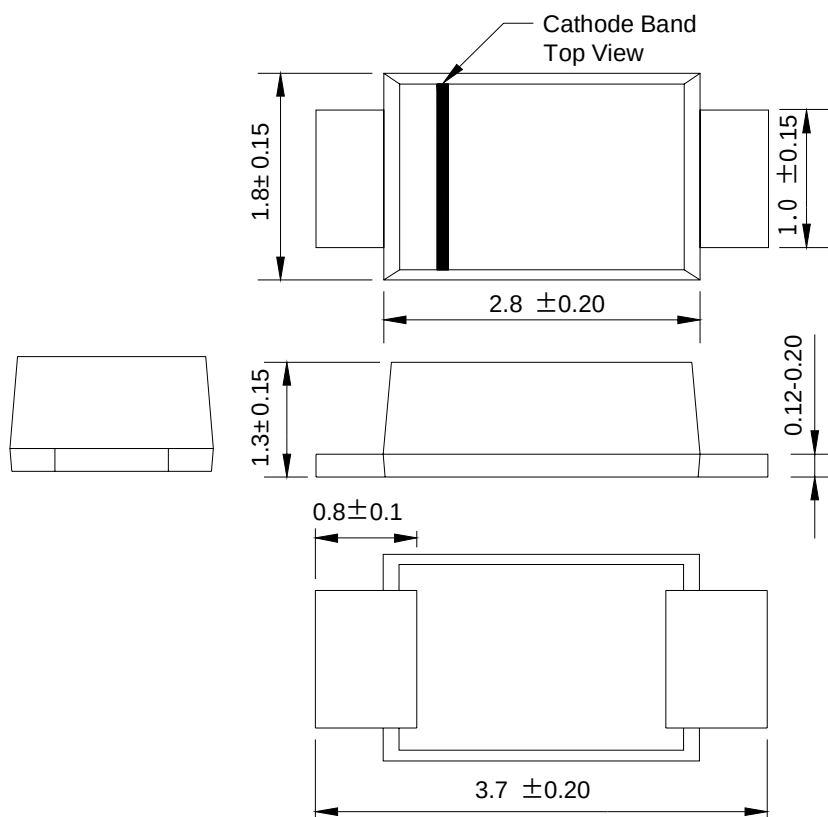


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

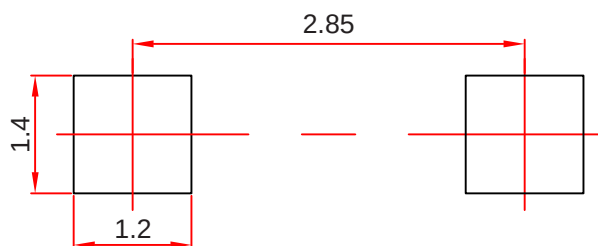


SOD-123FL Package Outline Dimensions



Dimensions in millimeters

SOD-123FL Suggested Pad Layout



Note:

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

Reel Taping Specifications For Surface Mount Devices-SOD-123FL

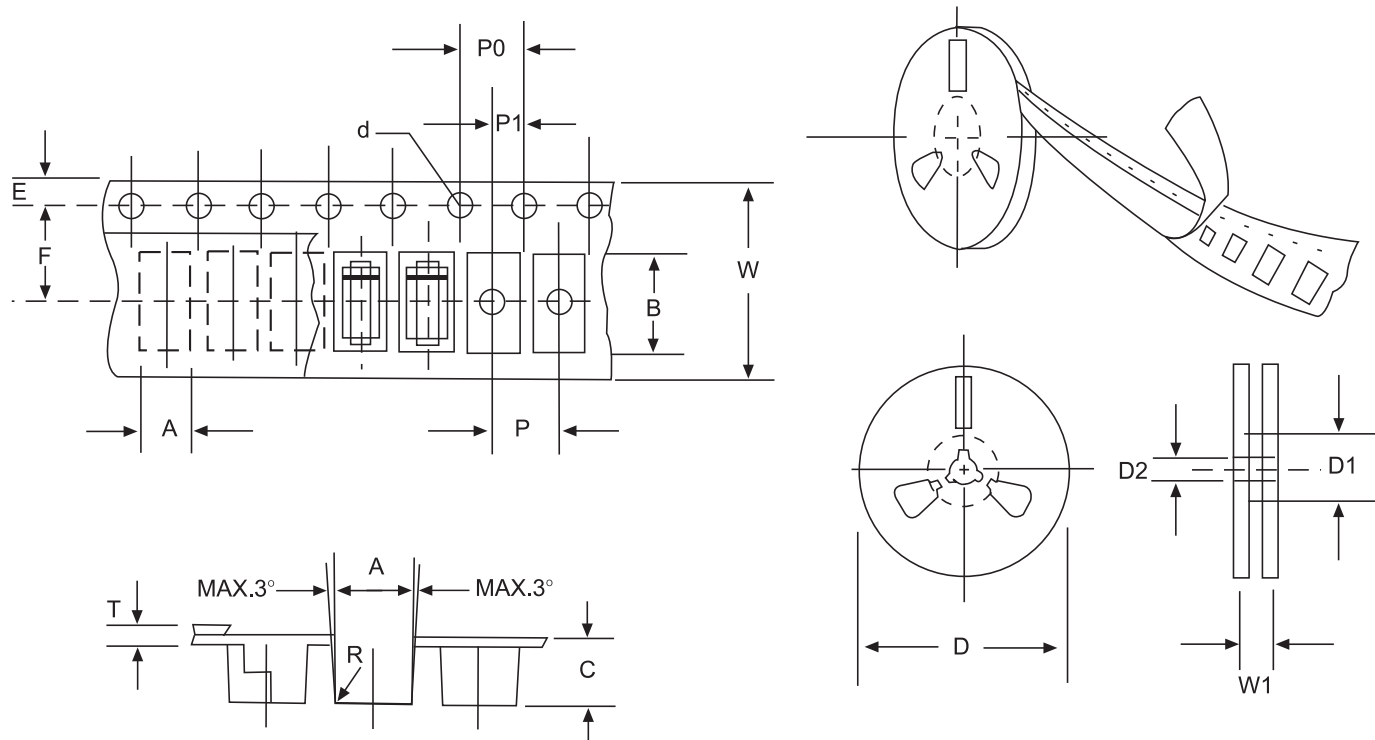


FIG:CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

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	178±2.0(7.0±0.079)
Reel inner diameter	D1	54±1.0(2.13±0.039)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Stroket 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)
Totall 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.