

SOD-123FL Plastic-Encapsulate Diodes

Super Fast Recovery Rectifier Diodes

Features:

- $I_{F(AV)}$ 1A
- V_{RRM} 50V-600V
- High surge current capability
- Polarity: Color band denotes cathode

SOD-123FL



Applications:

- Rectifier

Marking

- KSFM11PL:E1A;KSFM12PL:E1B
- KSFM13PL:E1C;KSFM14PL:E1D
- KSFM15PL:E1E;KSFM16PL:E1G;KSFM18PL:E1J

Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	KSFM						
				11PL	12PL	13PL	14PL	15PL	16PL	18PL
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
Maximum DC Blocking Voltage	V_{DC}	V		50	100	150	200	300	400	600
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave , Resistance load , $T_a=90^{\circ}C$	1.0						
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave , 1 cycle , $T_a=25^{\circ}C$	30						
Operation Junction and Storage Temperature Range	T_J, T_{STG}	$^{\circ}C$		-55 ~ +150						

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

Item	Symbol	Unit	Test Condition	KSFM						
				11PL	12PL	13PL	14PL	15PL	16PL	18PL
Peak Forward Voltage	V_F	V	$I_F=1.0A$	0.95			1.25		1.70	
Maximum reverse recovery time	t_{rr}	ns	$I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$	35						
Peak Reverse Current	I_{RRM1}	μA	$V_{RM}=V_{RRM}$	$T_a=25^{\circ}C$		5				
	I_{RRM2}			$T_a=100^{\circ}C$		100				
Thermal Resistance(Typical)	$R_{\theta J-A}$	$^{\circ}C/W$	Between junction and ambient		62					
	$R_{\theta J-L}$		Between junction and terminal		25					
Typical Junction Capacitance	C_J	pF	Measured at 1.0MHz, $V_R=4.0V$		10					

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

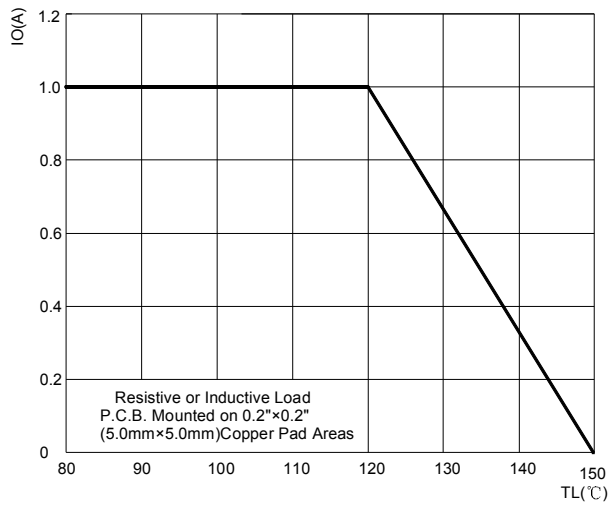


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

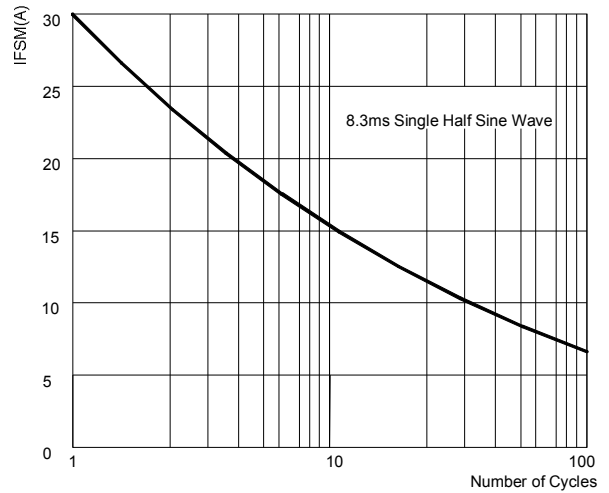


FIG.3: TYPICAL FORWARD CHARACTERISTICS

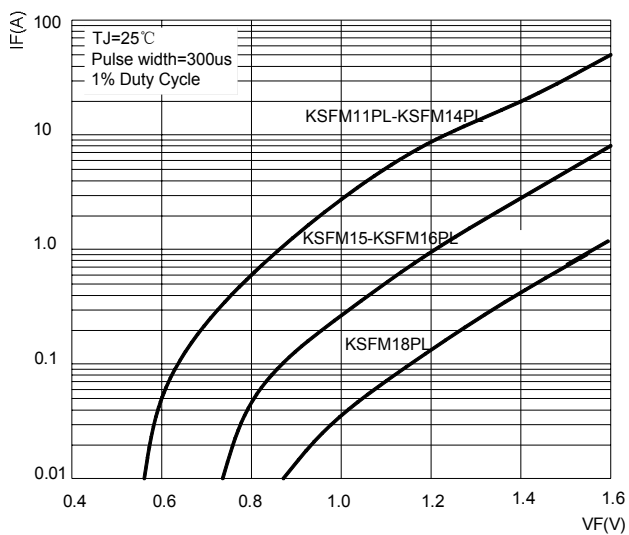


FIG.4: TYPICAL REVERSE CHARACTERISTICS

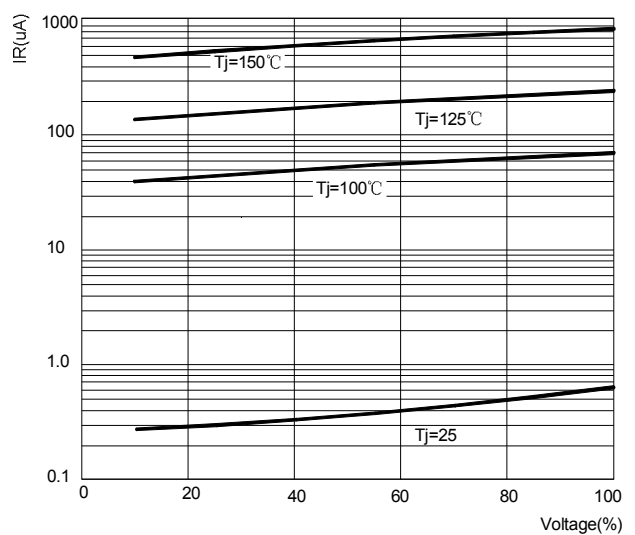
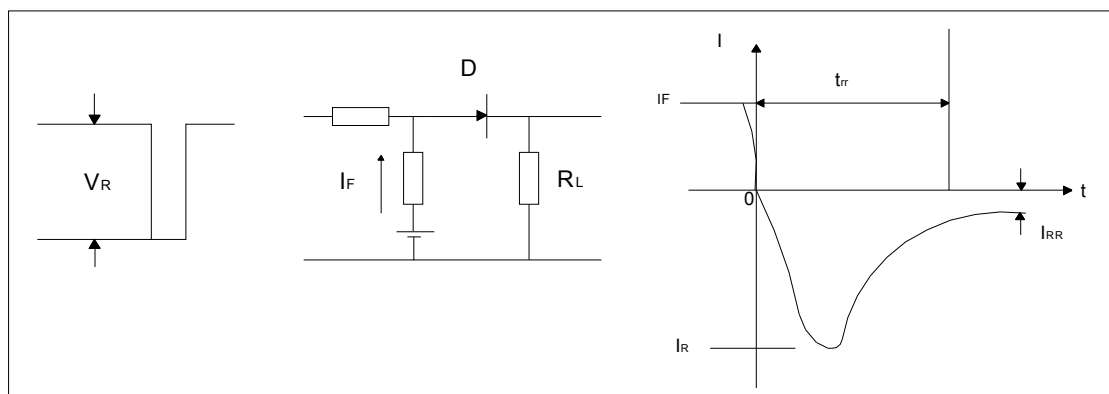
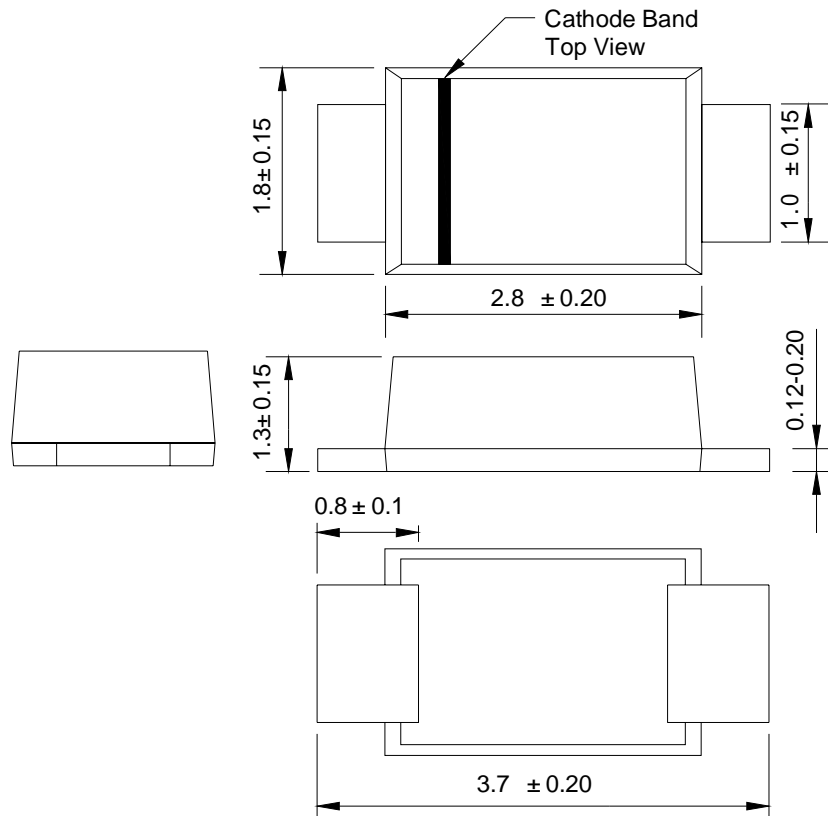


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

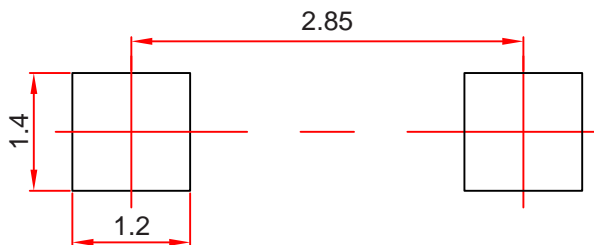


SOD-123FL Package Outline Dimensions



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.

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

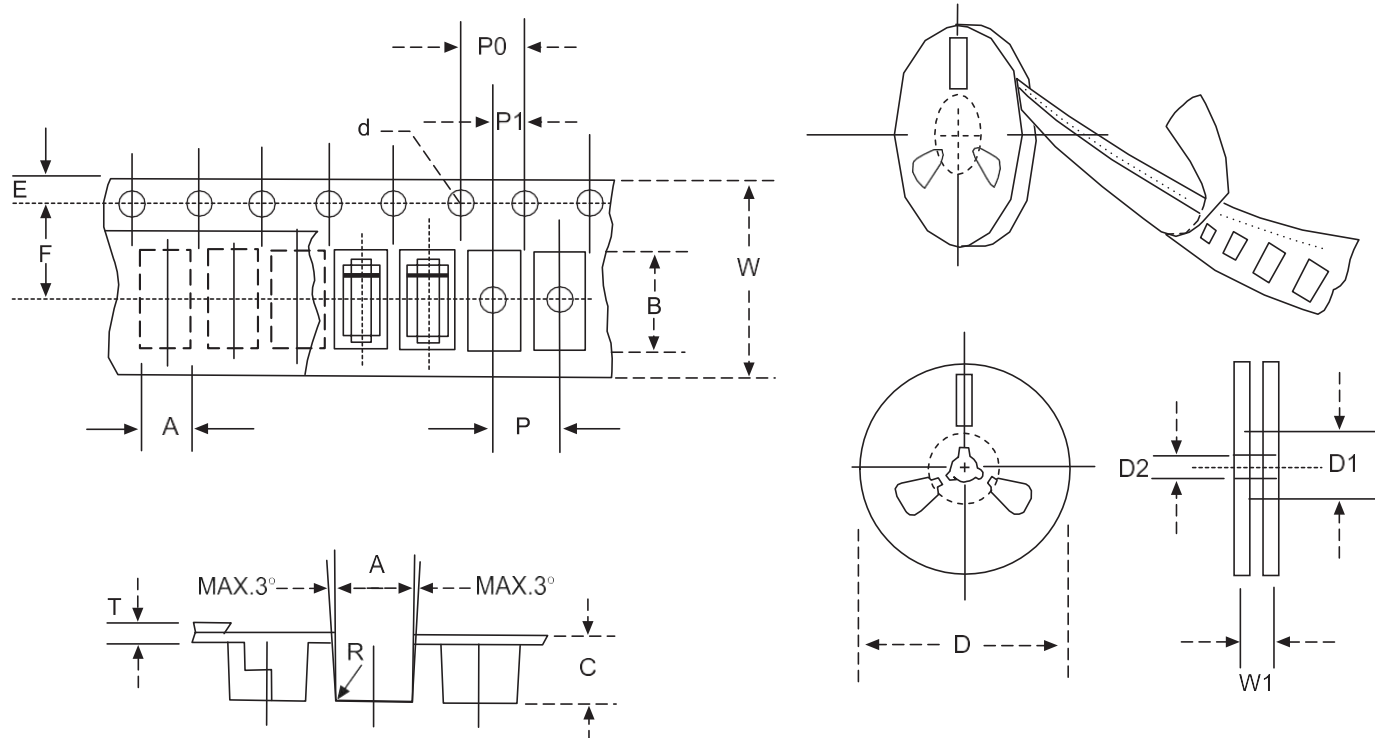


FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

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)
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.