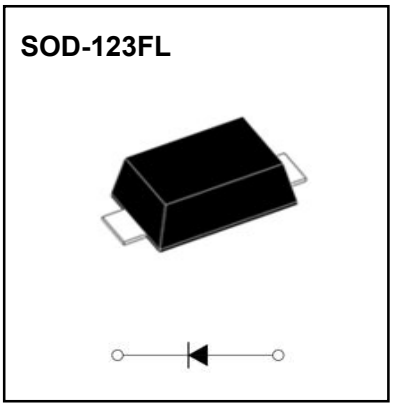
SOD-123FL Plastic-Encapsulate Diodes

US1AL THRU US1ML High Efficient Rectifier Diodes



Features

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

Applications

- Rectifier

Marking

- US1AL-US1DL : USL
- US1GL : USM
- US1JL-US1ML : USH

Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	US1						
				AL	BL	DL	GL	JL	KL	ML
Repetitive Peak Reverse Voltage	V_{RRM}	V		50	100	200	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V		35	70	140	280	420	560	700
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load	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℃ Unless otherwise specified)

Item	Symbol	Unit	Test Condition		US1						
					AL	BL	DL	GL	JL	KL	ML
Peak Forward Voltage	V_F	V	I_F=1.0A		1.0			1.3	1.7		
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A,I_{rr}=0.25A		50				75		
Peak Reverse Current	I_{RRM1}	μA	V_{RM}=V_{RRM}	Ta=25℃	5						
	I_{RRM2}			Ta=125℃	50						
Thermal Resistance(Typical)	$R_{\theta J-A}$	℃/W	Between junction and ambient		72						
	$R_{\theta J-L}$		Between junction and terminal		12						
Juction Capacitance (Typical)	Cj	pF	Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C		14			12	6		

Notes:

Thermal resistance from junction to ambient and from juction to lead mounted on FR4 PCB double sided copper mini pad

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

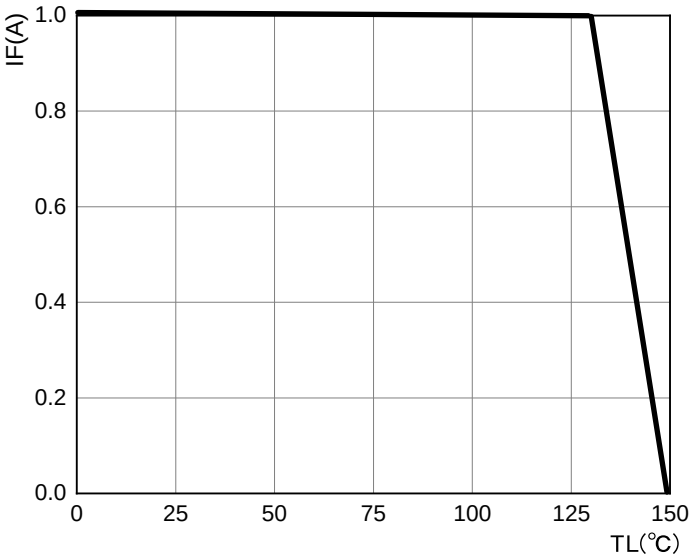
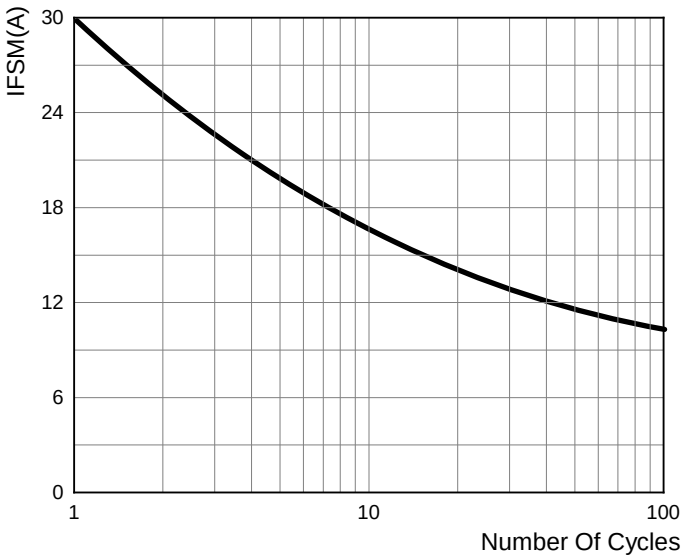
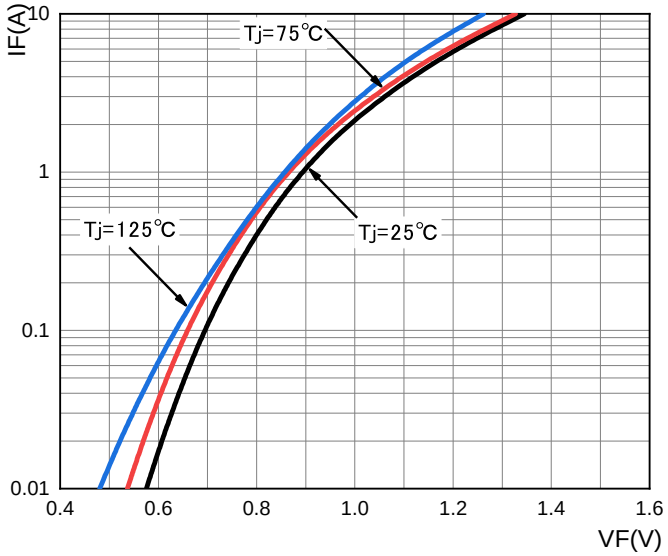


FIG 2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



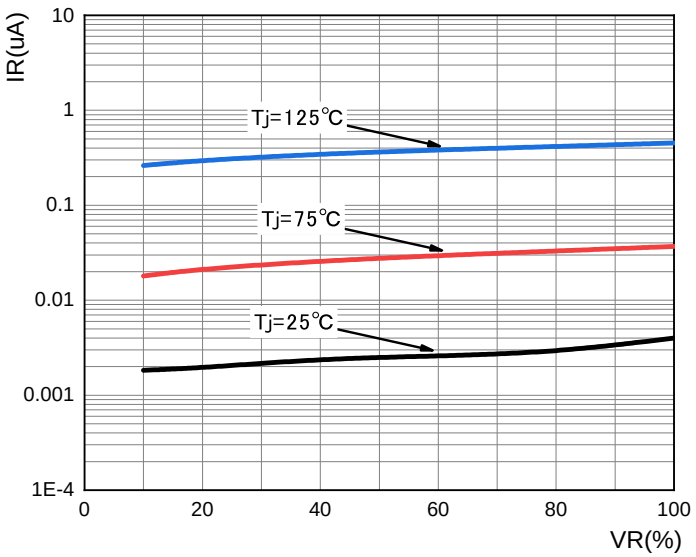
US1AL-US1DL

FIG.3 : TYPICAL FORWARD CHARACTERISTICS



US1AL-US1DL

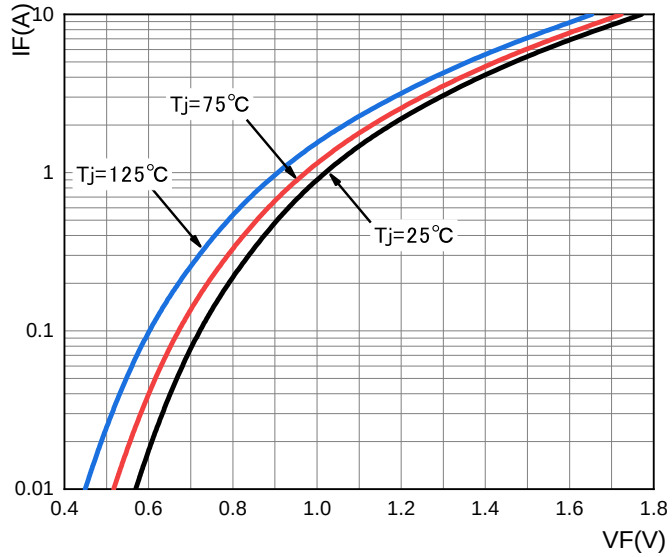
FIG.4 TYPCAL REVERSE CHARACTERISTICS



Typical Characteristics

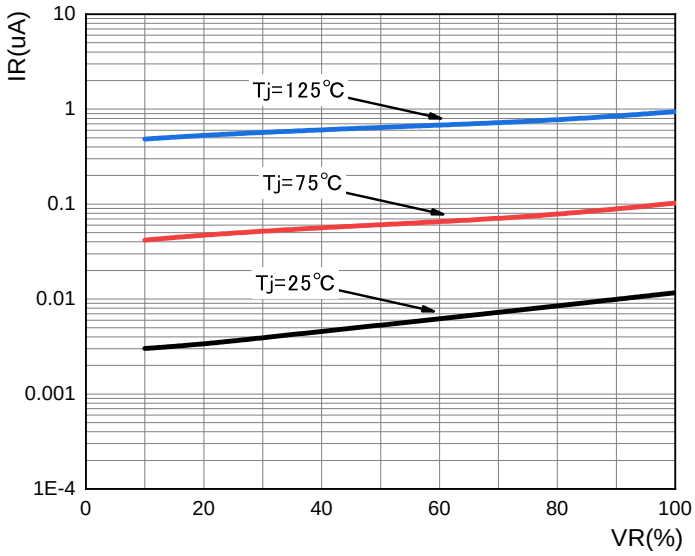
US1GL

FIG.5 : TYPICAL FORWARD CHARACTERISTICS



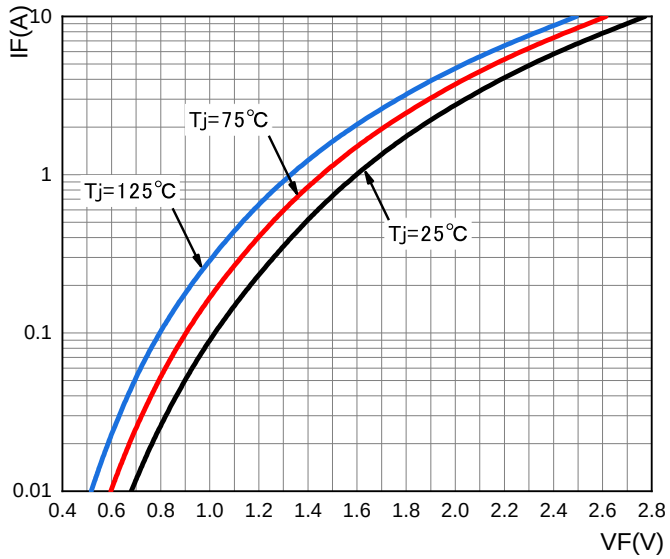
US1GL

FIG.6 TYPCAL REVERSE CHARACTERISTICS



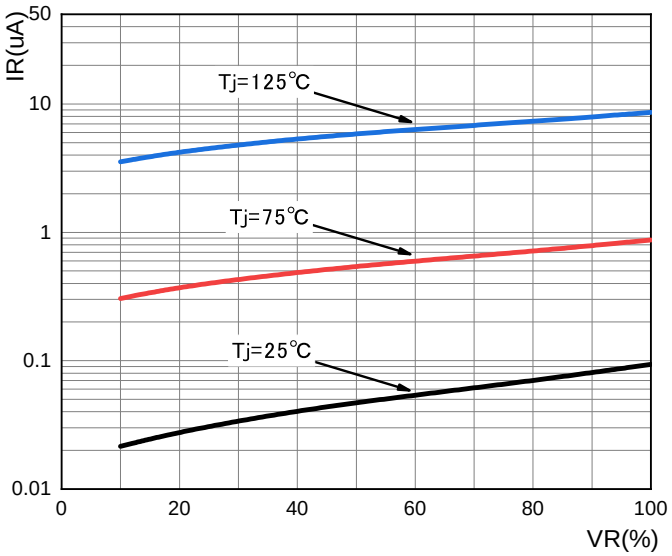
US1JL-US1ML

FIG.7 : TYPICAL FORWARD CHARACTERISTICS

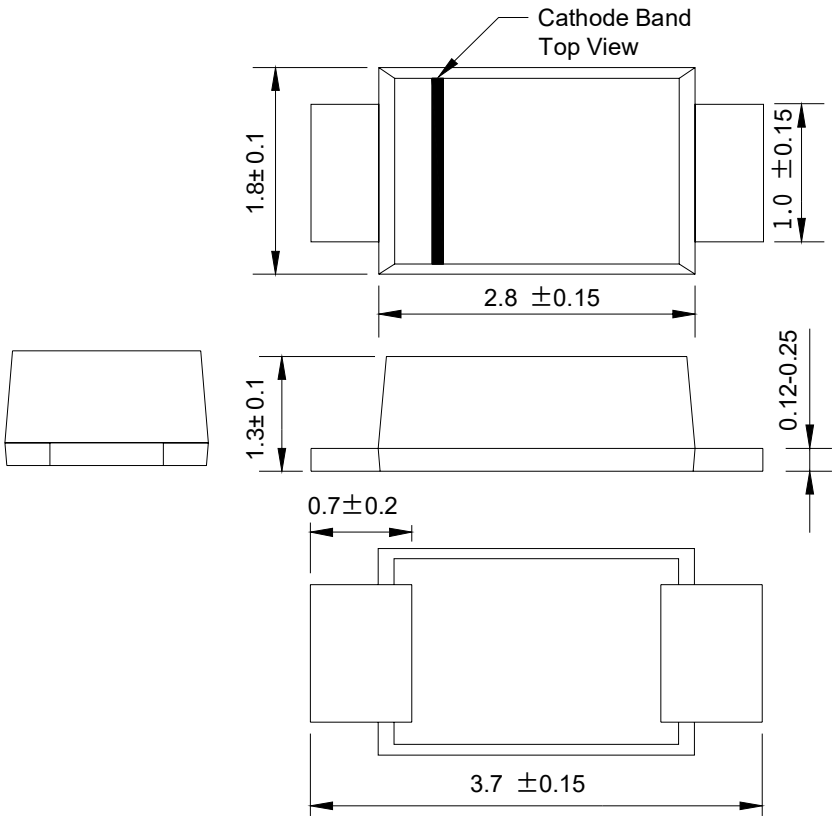


US1JL-US1ML

FIG.8 TYPCAL REVERSE CHARACTERISTICS

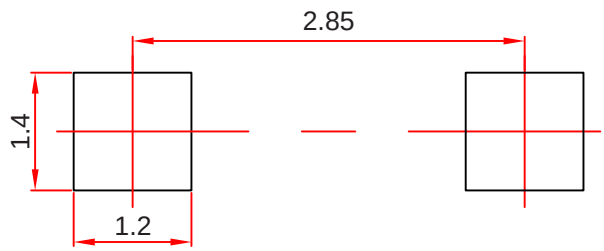


SOD-123FL Package Outline Dimensions



Dimensions in millimeters

SOD-123FL Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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

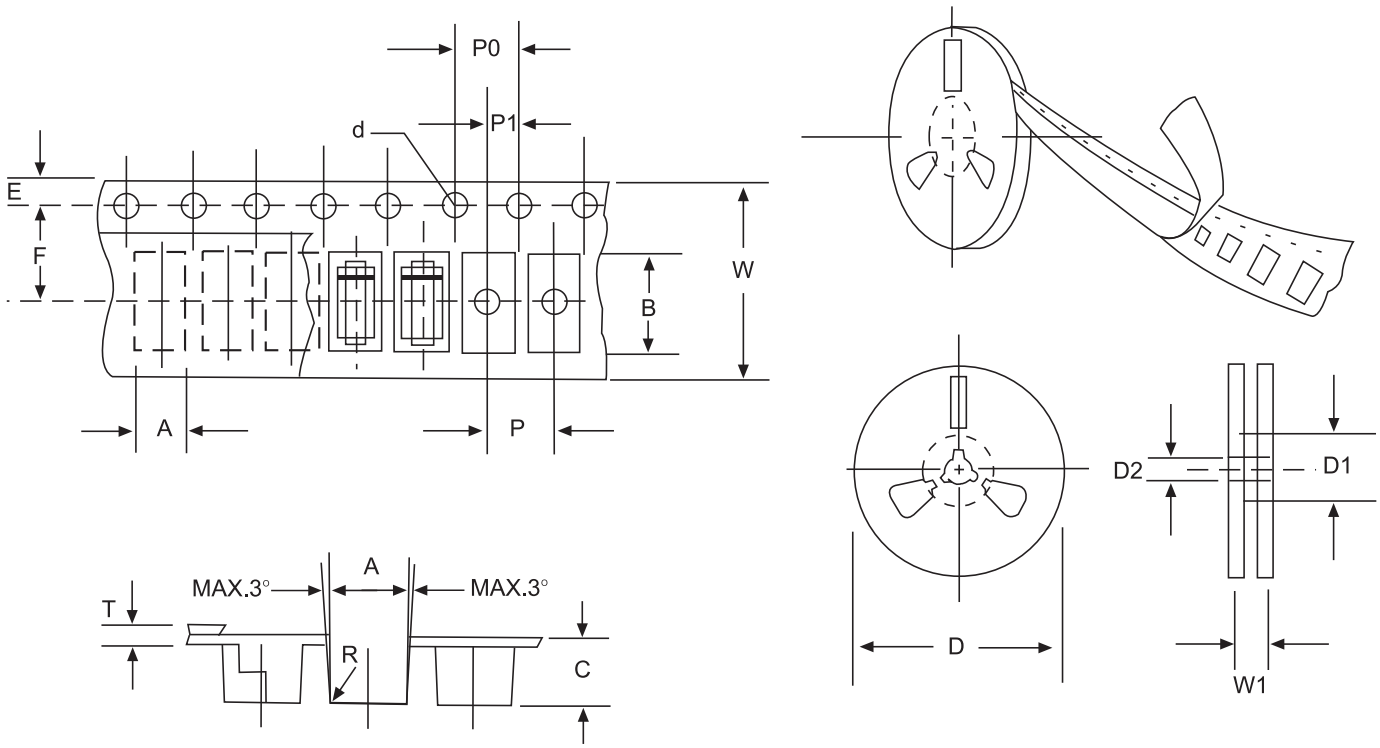


FIG:CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

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)
Strocket 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.