

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



SOD-123FL top view

Schematic diagram



Halogen-Free

Limiting Values (Absolute Maximum Rating)

Symbol	Item	Conditions	US1							Unit
			AL	BL	DL	GL	JL	KL	ML	
V_{RRM}	Repetitive Peak Reverse Voltage		50	100	200	400	600	800	1000	V
V_{RMS}	Maximum RMS Voltage		35	70	140	280	420	560	700	V
$I_{F(AV)}$	Average Rectified Output Current	60Hz Half-sine wave, Resistance load	1.0							A
I_{FSM}	Surge(Non-repetitive)Forward Current	60Hz Half-sine wave, 1 cycle, $T_a=25^{\circ}C$	30							A
T_J, T_{STG}	Operating and Storage Temperature Range		-55~ +150							$^{\circ}C$

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

Symbol	Item	Condition	US1							Unit
			AL	BL	DL	GL	JL	KL	ML	
V _F	Peak Forward Voltage	I _F =1.0A	1.0			1.3	1.7		V	
t _{rr}	Maximum reverse recovery time	I _F =0.5A,I _R =1.0A,I _{rr} =0.25A	50				75		ns	
I _{RRM1}	Peak Reverse Current	V _{RM} =V _{RRM} T _a =25℃	5							μA
I _{RRM2}		V _{RM} =V _{RRM} T _a =125℃	50							
R _{θJA}	Thermal Resistance	Between junction and ambient	72							℃/W
R _{θJL}		Between junction and terminal	12							
C _J	Typical junction capacitance per diode	Measured at 1.0MHz and applied reverse voltage of 4.0 volts	14		12	6			pF	

Notes:

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

Typical Operating Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

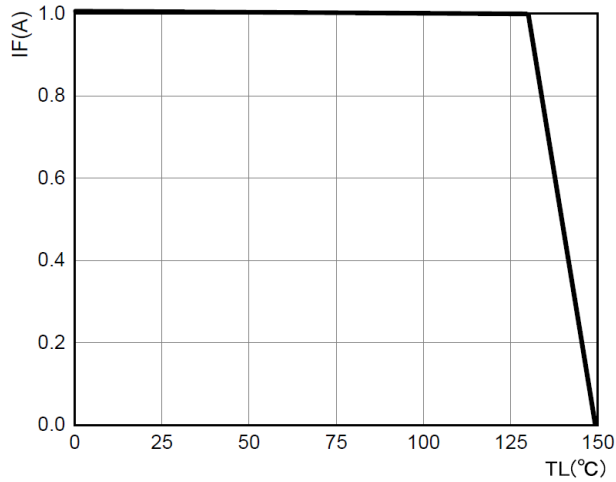
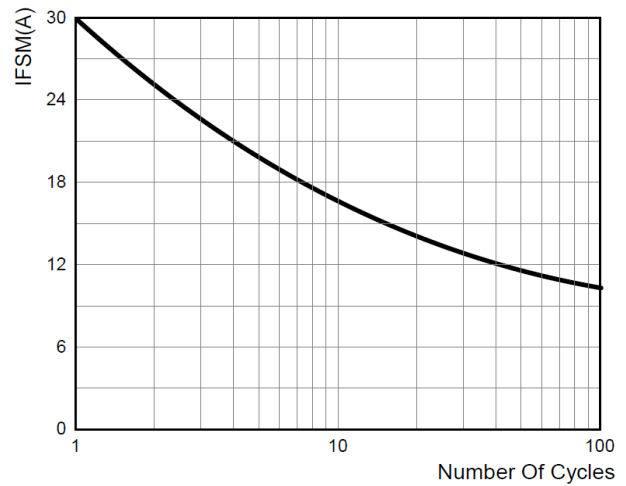
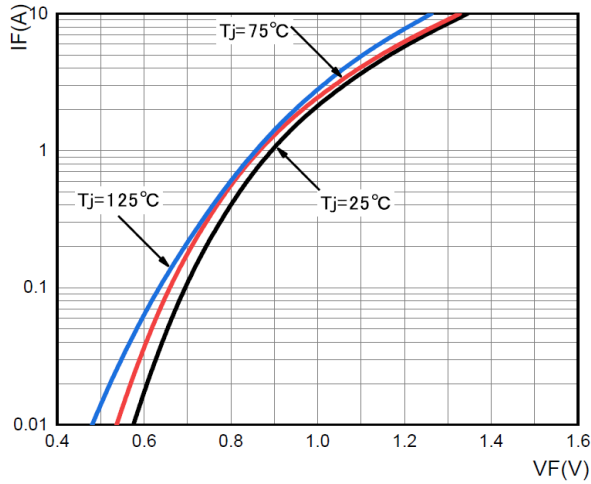


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



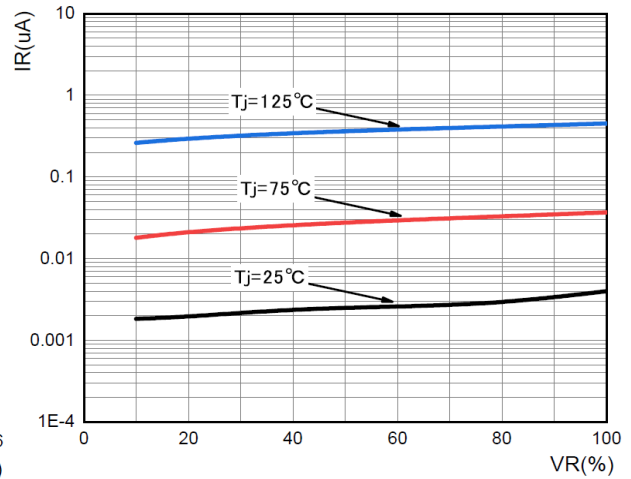
US1AL-US1DL

FIG.3 : TYPICAL FORWARD CHARACTERISTICS



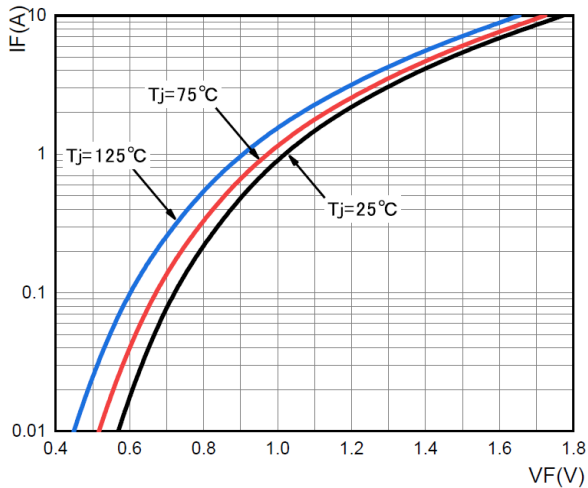
US1AL-US1DL

FIG.4 TYPICAL REVERSE CHARACTERISTICS



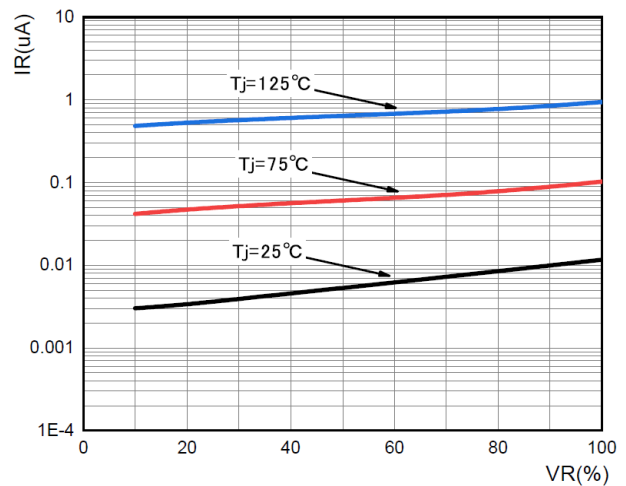
US1GL

FIG.5 : TYPICAL FORWARD CHARACTERISTICS



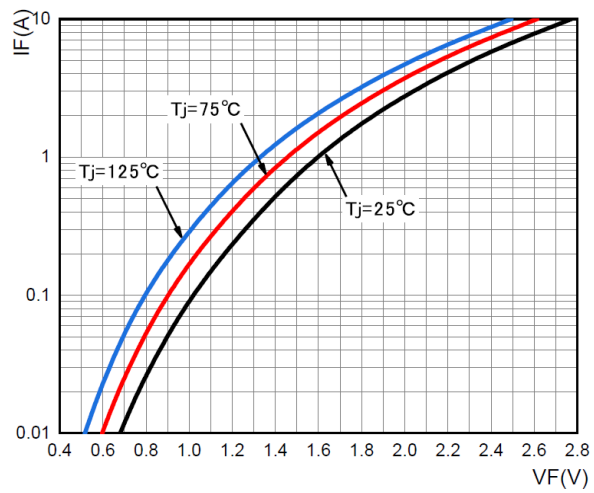
US1GL

FIG.6 TYPICAL REVERSE CHARACTERISTICS



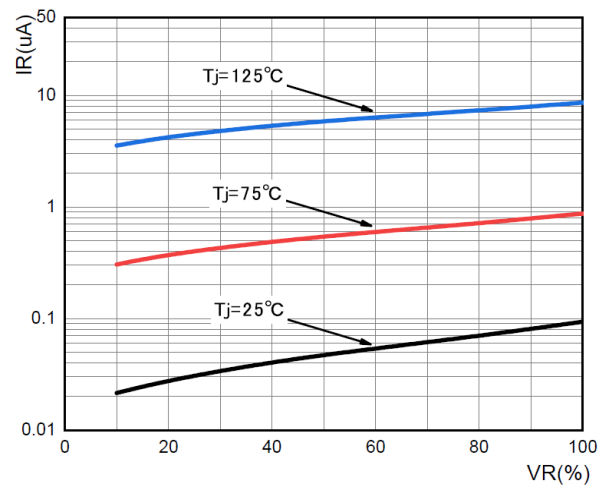
US1JL-US1ML

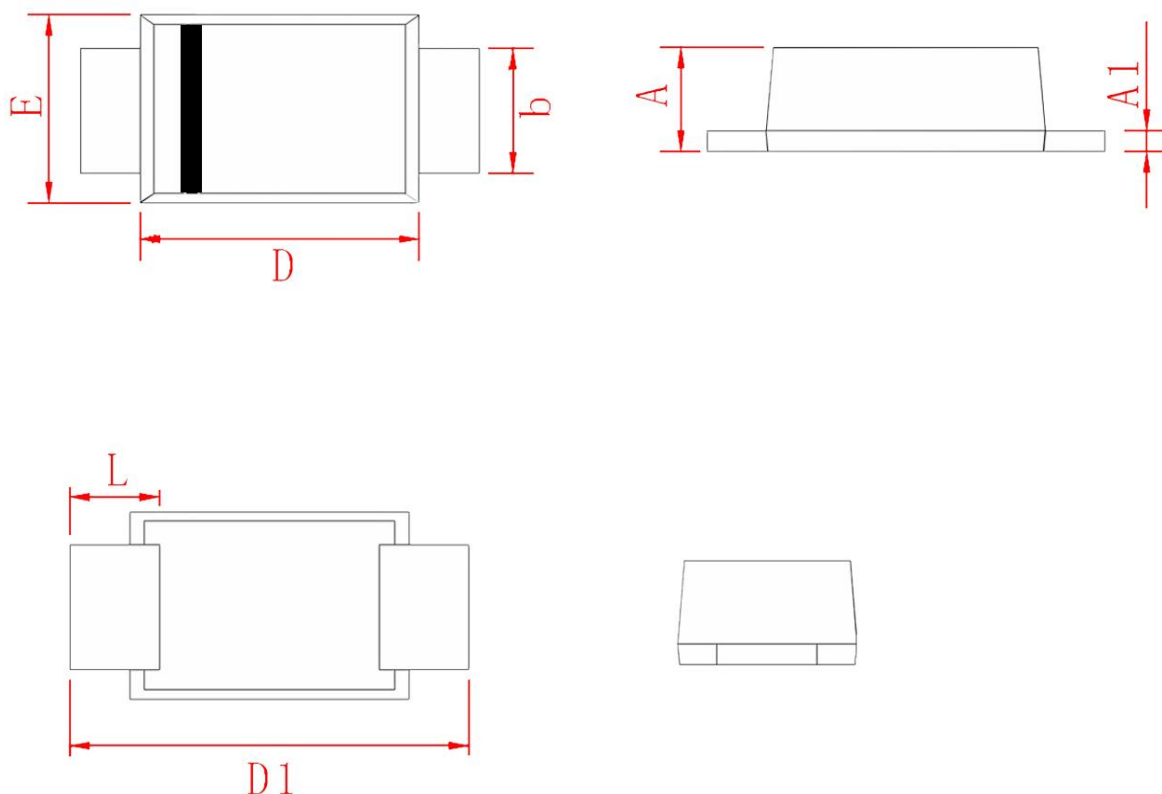
FIG.7 : TYPICAL FORWARD CHARACTERISTICS



US1JL-US1ML

FIG.8 TYPICAL REVERSE CHARACTERISTICS



SOD-123FL Package information


Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	1.200	1.400	0.047	0.055
A1	0.120	0.250	0.005	0.010
b	0.850	1.150	0.033	0.045
D	2.650	2.950	0.104	0.116
D1	3.550	3.850	0.140	0.152
E	1.700	1.900	0.067	0.075
L	0.500	0.900	0.020	0.035