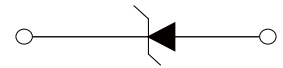


FEATURES

- | Glass passivated junction chip
- | Ideal for automated placement
- | Glass passivated chip junction
- | High forward surge capability
- | Meets MSL level 1, per J-STD-020



SOD-123FL



Schematic Symbol

MECHANICAL DATA

- | Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- | Polarity: Cathode line denotes the cathode end

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS AND CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	ES1000 FL	ES1001 FL	ES1015 FL	ES1002 FL	ES1003 FL	ES1004 FL	ES1005 FL	ES1006 FL	Unit
Marking		ES1A	ES1B	ES1C	ES1D	ES1F	ES1G	ES1H	ES1J	
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	350	420	
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	500	600	
Maximum average forward rectified current	I _{F(AV)}	1								A
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	30								
Maximum forward voltage @I _F =1A, T _J =25°C (Note 1)	V _F	0.95			1.3		1.7			V
Maximum reverse current @rated V _R	T _J =25°C	5								uA
	T _J =125°C	100								
Typical Thermal Resistance	R _{θJA}	85								°C/W
	R _{θJL}	35								
Typical junction capacitance (Note 3)	C _J	16				18				pF
Operating junction temperature rang	T _J	-55 to +150								°C
Storage temperature rang	T _{STG}	-55 to +150								
Maximum reverse recovery time (Note 2)	t _{rr}	35								ns

Note 1: Pulse test with PW=300uS, 1% duty cycle

Note 2: Reverse Recovery Test Conditions :I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and Applied VR=4.0 Volts

CHARACTERISTIC CURVES

Fig. 1- Maximum Forward Current Derating Curve

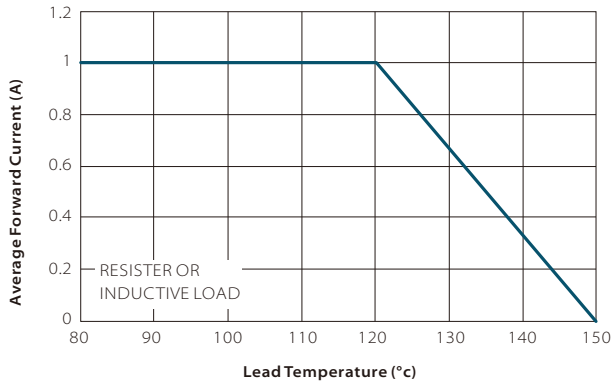


Fig. 2-Typical Instantaneous Forward Characteristics

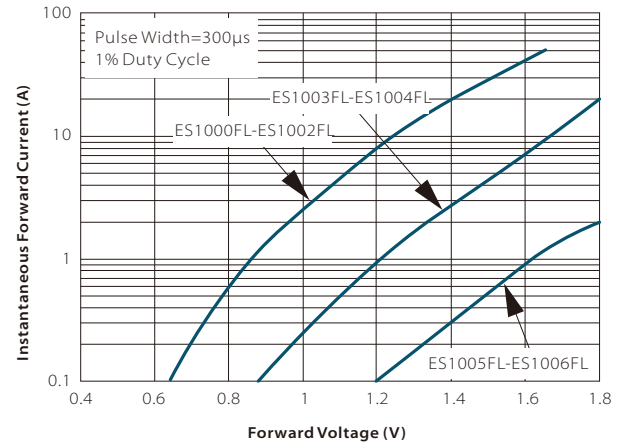


Fig. 3-maximum Non-repetitive Forward Peak Surge Current

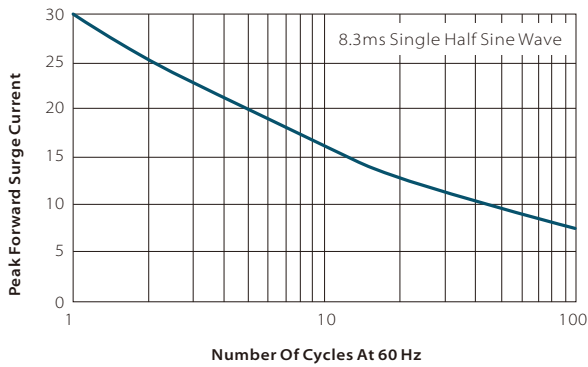


Fig. 4-Typical Reverse Characteristics

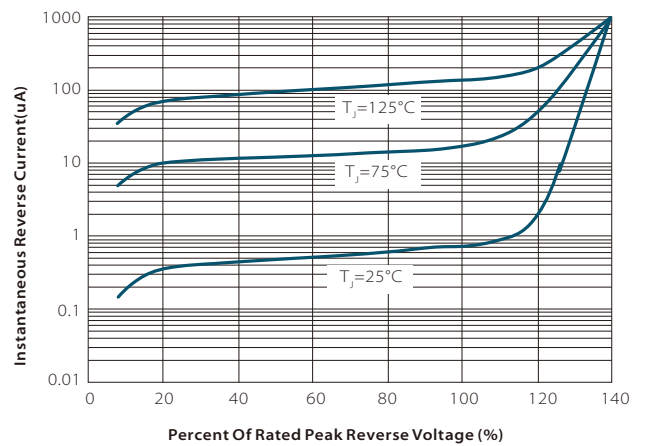


Fig. 5-Typical Junction Capacitance

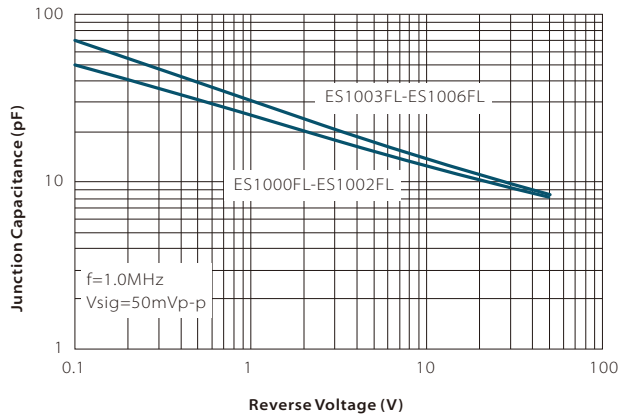
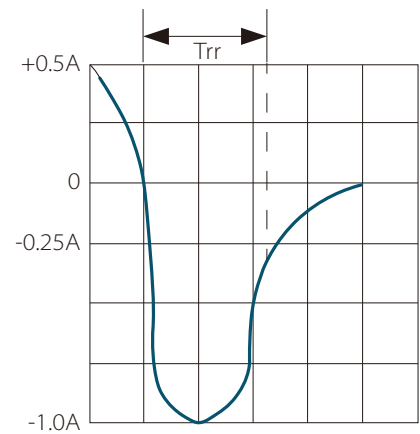
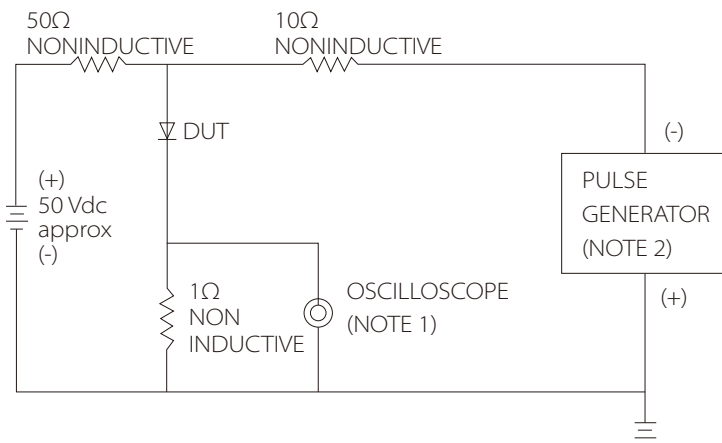


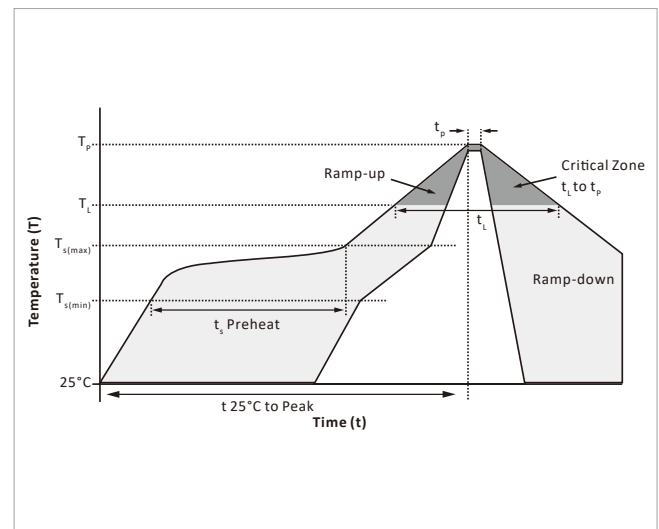
Fig. 6-Reverse Recovery Time Characteristic And Test Circuit Diagram



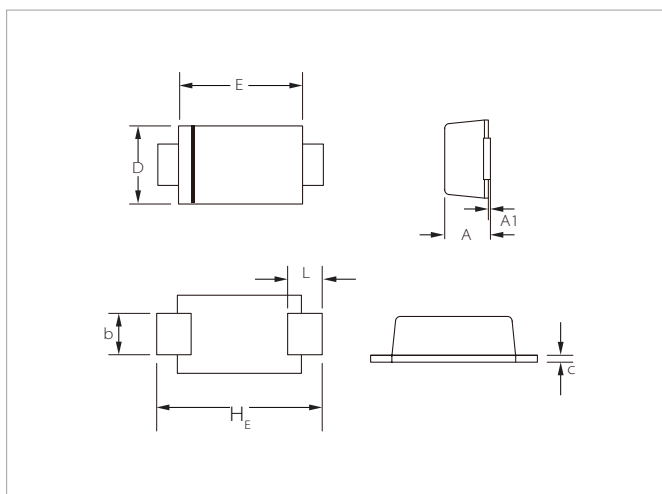
NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF
2. Rise time = 10 ns max., Source Impedance = 50 ohms

SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_l)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

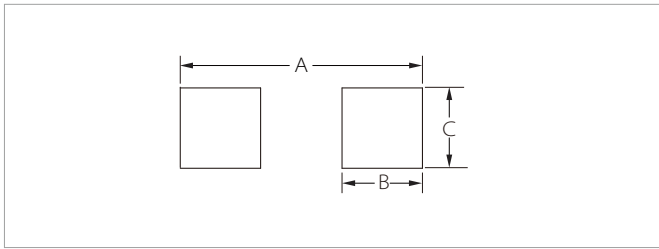


SOD-123FL PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.95	1.45	0.037	0.057
A1	0.00	0.10	0.000	0.004
b	0.70	1.20	0.028	0.047
c	0.05	0.30	0.002	0.012
D	1.50	2.00	0.059	0.079
E	2.50	2.90	0.098	0.114
L	0.35	0.90	0.014	0.035
H_E	3.40	3.90	0.134	0.154

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	4.20	0.165
B	1.50	0.059
C	1.20	0.047

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
ES1000-1006FL	SOD-123FL	3000PCS	7"

To find your local partner within Semiwell's website : www.semiwell.com.cn

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