ES1DFL~ES1JFL

Design Viitor into your FUTURE

1A, 200V - 600V Super-Fast Rectifier

Features

- AEC-Q101 Qualified
- Ideal for automated placement
- Glass passivated chip junction
- Super-fast recovery time for high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020,LF maximum peak of 260 °C

SOD-123FL

Cathode ○—▶—○ Anode

Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, telecommunication and automotive.

Mechanical Data

- Package:SOD-123FL
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Cathode line denotes the cathode end

Maximum Ratings (T_a = 25℃ unless otherwise specified)

Parameter	Symbol	ES1DFL	ES1GFL	ES1JFL	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	200	400	600	V
Maximum RMS Voltage	V_{RMS}	140	280	420	V
Maximum DC blocking Voltage	V_{DC}	200	400	600	V
Maximu average forward rectified current	$I_{F(AV)}$	1.0			A
Peak forward surge current , 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30			A
Thermal Resistance(Typical)	$R_{\theta JL}$ $R_{\theta J-A}$	35 85			℃/W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~175			℃

Electrical Characteristics（Ta=25℃ Unless otherwise specified）

Parameter	Symbol	ES1DFL	ES1GFL	ES1JFL	Unit
Maximu instantaneous forward voltage (Note 1)1.0A	V_F	0.95	1.3	1.7	V
Maximu reverse current rated VR Ta=25℃ Ta=125℃	I_{RRM1} I_{RRM2}	5 100			μA
Maximu reverse recovery time (Note 2)	trr	35			ns
Typical junction capacitance (Note 3)	C_J	16	18		pF

Note 1 : Pulse test with PW=300 μs , 1 duty cycle
Note 2 : Reverse Recovery Test Conditions :IF=0.5A,IR=1.0A,Irr=0.25A
Note 3 : Measured at 1 MHZ and Applied VR=4.0 Volts

Electrical Characteristics Curves

FIG1: Maximum Forward Current Derating Curve

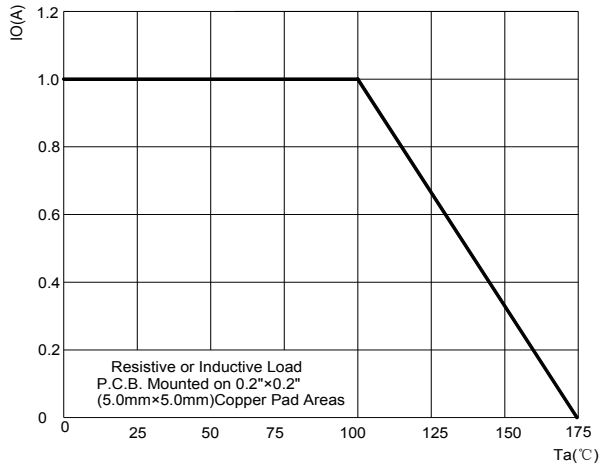


FIG2:Typical Instantaneous Forward Characteristics

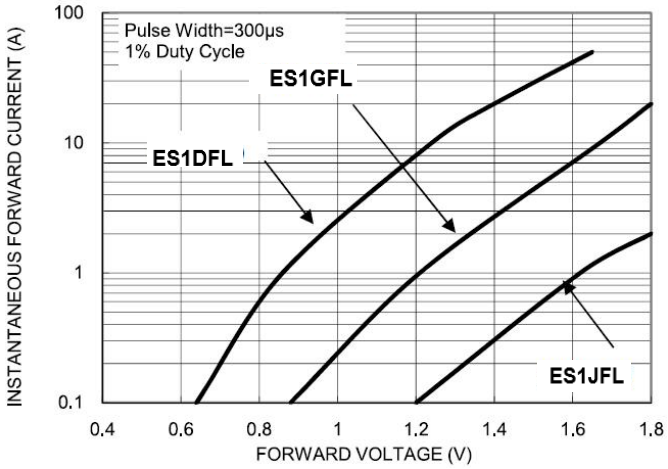


FIG3:Maximum Non-Repetitive Forward Peak

FIG4:Typical Reverse Characteristics

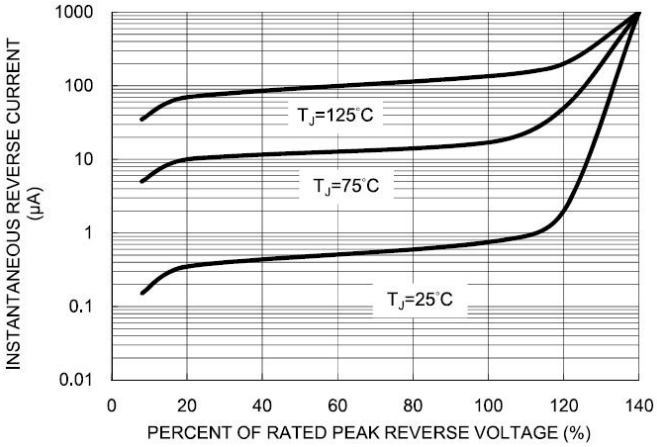


FIG5:Typical Junction Capacitance

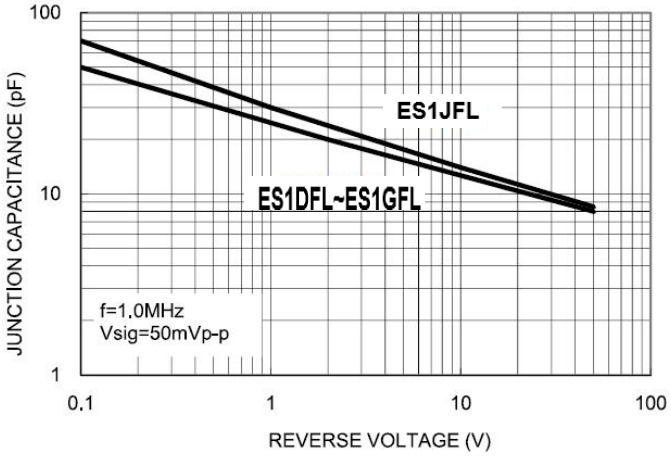
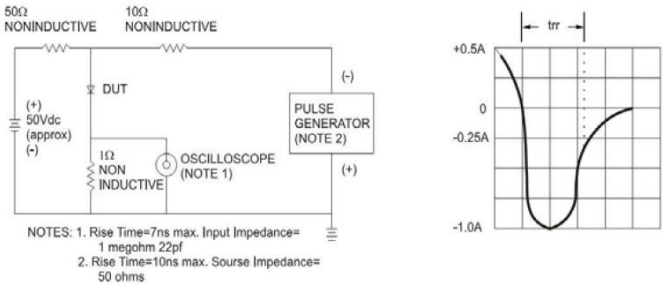
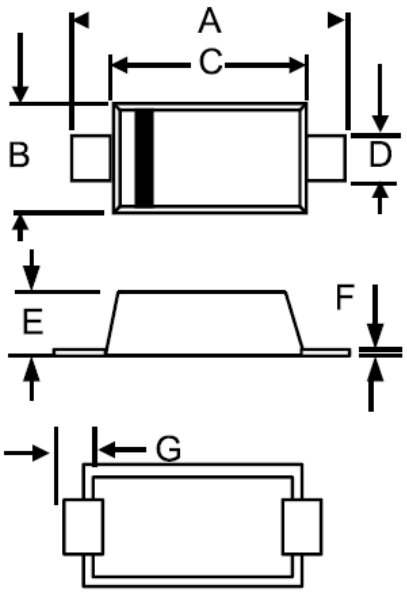


FIG6:Reverse Recovery Time Characteristic
And Circuit Diagram

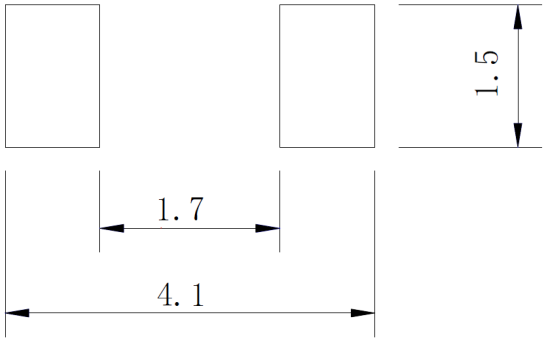


Package Outline Dimensions in inches (millimeters) **SOD-123FL**



DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.138	0.154	3.50	3.90
B	0.069	0.077	1.75	1.95
C	0.102	0.114	2.60	2.90
D	0.031	0.043	0.80	1.10
E	0.037	0.045	0.95	1.15
F	0.004	0.008	0.10	0.20
G	0.028	0.035	0.70	0.90

SUGGESTED PAD LAYOUT



Packing Information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-123FL	8	4±0.1	0.1575±0.004	178	7	3,000

Marking information

" ES1DFL " = Part No.

" YWW " = Date Code Marking

" Y " = Last digit of year (ex: 2 = 2022)

" WW " = Week Code (ex: 24 = the 24th week of the year)

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