

2A, 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

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°C unless otherwise specified)

Parameter	Symbol	ES2DFL	ES2GFL	ES2JFL	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
Average forward current Half-sine wave, Resistance load, T _a (Fig1)	I _{F(AV)}	2.0			A
Surge(Nonrepetitive)Forward Current	I _{FSM}	50			A
Current squared Time 1ms ≤ t < 8.3ms T _j =25°C, Rating of per diode	I ² t	10.4			A ² s
Thermal Resistance	R _{θJ-A}	75			°C/W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55~175			°C

1) Between Junction and Ambient mounted on P.C.B. with 3.0mm x 3.0mm copper pad areas

Electrical Characteristics (T_a=25°C Unless otherwise specified)

Parameter	Symbol	ES2DFL	ES2GFL	ES2JFL	Unit
Peak forward voltage I _F =2.0A	V _F	1.0	1.3	1.7	V
Peak reverse current T _a =25°C T _a =125°C	I _{RRM1} I _{RRM2}	5 200			μA
Maximu reverse recovery time I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	t _{rr}	35			ns

ES2DFL~ES2JFL

Electrical Characteristics Curves

Fig. 1 - Forward Current Derating Curve

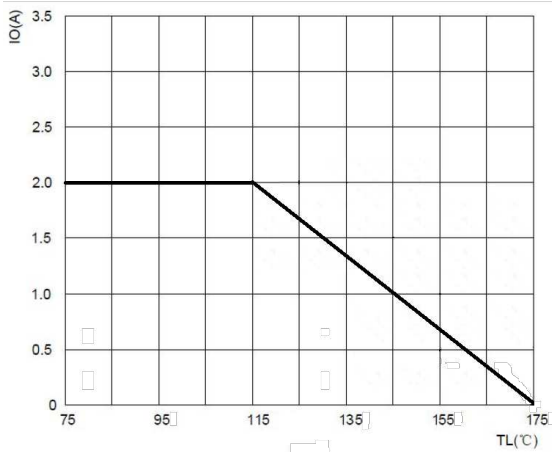


Fig. 2 - Surge Forward Current Capability

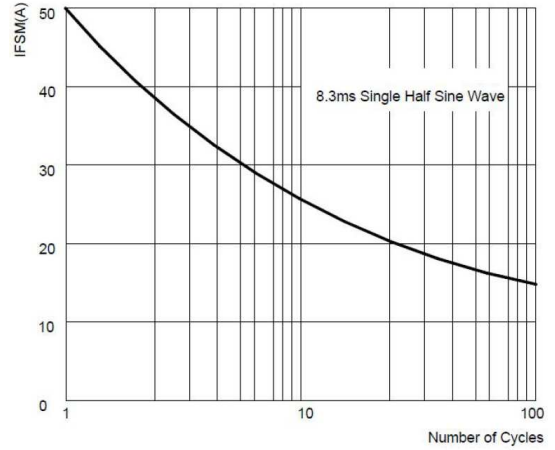


Fig. 3 - Instantaneous Forward Voltage

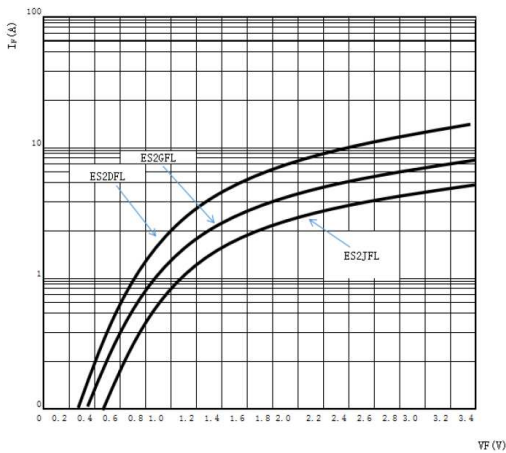


Fig. 4 - Typical Reverse Characteristics

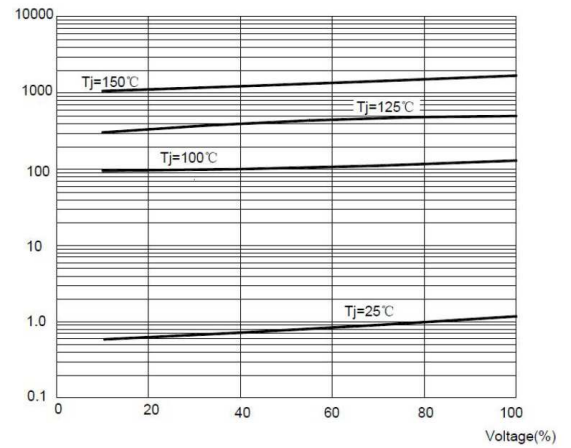
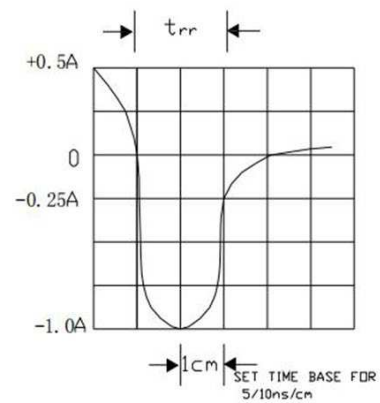
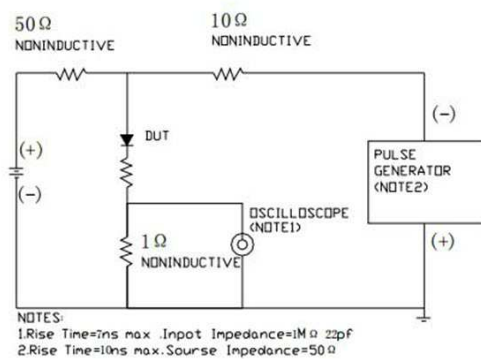


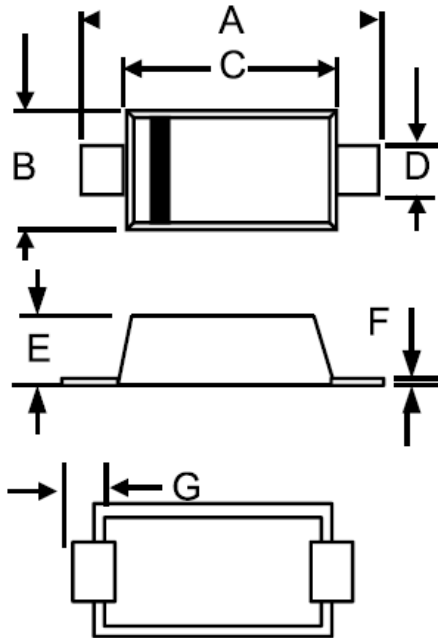
Fig. 5 - Diagram of circuit and Testing wave form of reverse recovery time



ES2DFL~ES2JFL

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

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

" ES2DFL " = 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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