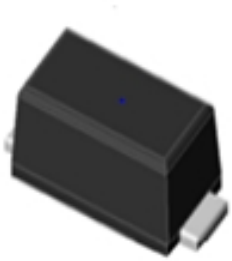
Surface Mount Glass Passivated Fast Recovery Rectifier

SOD-123FL(eSGA)



Features

- ROHS compliant
- Glass passivated chip
- High forward surge capability
- Meet MSL level 1, per J-STD-020 LF maximum peak of 250 °C
- Solder dip 260 °C / 40S
- Component in accordance to ROHS 2002/95/EC and WEEE 2002/96/WC
- UL recognition, file number E342874

Primary characteristics

$I_{F(AV)}$	1A
V_{RRM}	50V to 1000V
I_{FSM}	30A
I_{RM}	5uA
V_{FM} at I_F=1 A	1.3V
T_J max.	150 °C

Applications

Ideal for ac-to-dc bridge full wave rectification suck as SMPS, home applianes, office equipment, indusrial automation applicatios

Mechanical data

- SOD-123FL(eSGA)
- Epoxy meets UL 94 V-0 flammability rating
- Terminals: Tin plated leads.
- Polarity: As marked.
- Mounting Torque:10cm-kg(8.8 inches-lbs)max.
- Recommended Torque:5.7 cm-kg(5 inches-lbs)

Maximum rating (Ta=25°C unless otherwise noted)

Parameter		Sym	SOD-123FL(eSGA)							Unit
			FF1	FF2	FF3	FF4	FF5	FF6	FF7	
Max. repetitive peak reverse voltage		V_{RRM}	50	100	200	400	600	800	1000	V
Max. RMS reverse voltage		V_{RMS}	35	70	140	280	420	560	700	V
Max. DC blocking voltage		V_{DC}	50	100	200	400	600	800	1000	V
Max. average forward current		$I_{F(AV)}$	1							A
Non-repetitive peak forward surge current 8.3ms single half-sine-wave		I_{FSM}	30							A
Max. instantaneous forward voltage drop per diode		V_{FM}	1.3 (1A)							V
Max. instantaneous reverse current	Ta=25 °C	I_{RM}	5							μA
at rated DC blocking voltage	Ta=125 °C		50							
Operating junction temperature		T_J	-55 ~ +150							°C
Storage temperature		T_{STG}	-55 ~ +150							°C
Maximum reverse recovery time (Note 2)		trr	150				250	500		nS
Typical thermal resistance (Note 1)		$R_{\theta JA}$	76							°C /W
		$R_{\theta JC}$	42							
		$R_{\theta JM}$	7							

Notes:

1 The thermal resistance from junction to ambient,case or mount,mounted on P.C.B with 5×5mm copper pads,2OZ,FR4 PCB

2. Reverse recovery test conditions: IF=0.5A, IR=1.0A, Irr=0.25A

Ordering information (Example)				
PREFERRED	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
FF7				

Typical characteristics

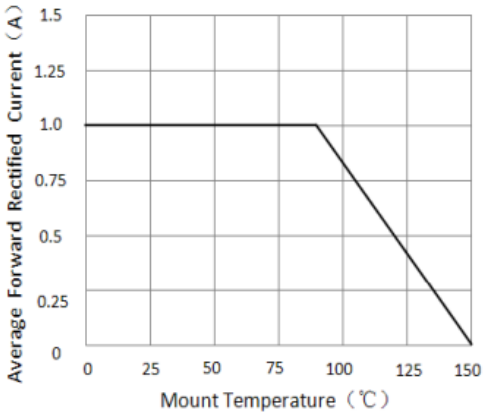


Figure 1.Forward Current Derating Curve

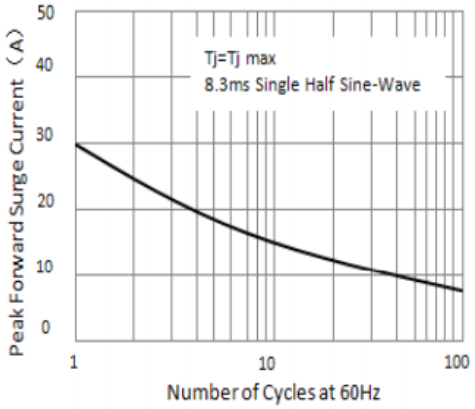


Figure 2.Maximum Non-Repetitive Peak Forward Surge Current

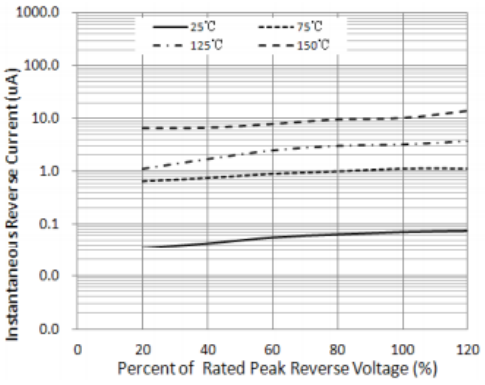


Figure 3. Typical Reverse Characteristics

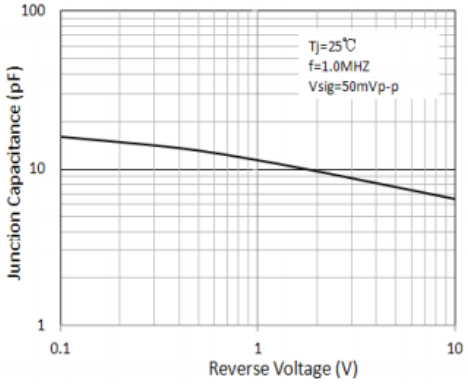
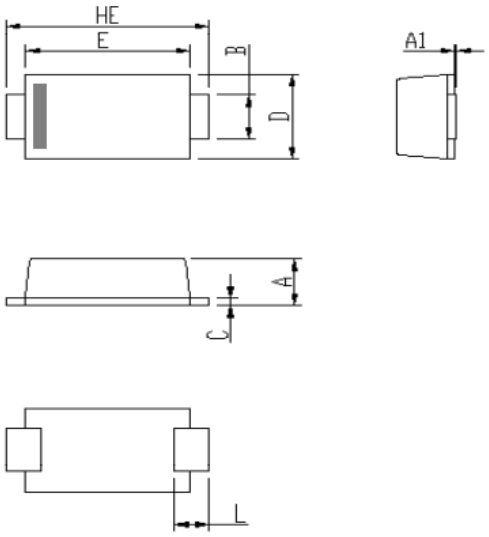


Figure 4. Typical Junction Capacitance

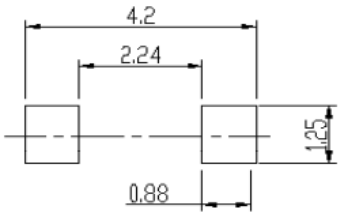
Package outline dimensions

in inches (millimeters)



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	0.9	1.08	0.035	0.043
A1	0	0.1	0.000	0.004
B	0.85	1.05	0.033	0.041
C	0.1	0.25	0.004	0.010
D	1.7	2	0.067	0.079
E	2.9	3.1	0.114	0.122
L	0.43	0.83	0.017	0.033
HE	3.5	3.9	0.138	0.154

Soldering footprint



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