

Surface Mount Super Fast Recovery Rectifier

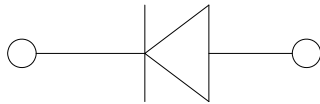


Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Super fast switching for high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Part no. with suffix "Q" means AEC-Q101 qualified

Typical Applications

For use in super fast switching rectification of power supply, inverters, converters, and freewheeling diodes for automotive and telecommunication.



Mechanical Date

- **Package:** SOD-123FL
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **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	UNIT	E1AQ	E1BQ	E1DQ	E1FQ	E1GQ	E1JQ
Device marking code			E1A	E1B	E1D	E1F	E1G	E1J
Repetitive peak reverse voltage	V _{RRM}	V	50	100	200	300	400	600
Average rectified output current @60Hz sine wave, Resistance load, T _L (Fig.1)	I _o	A	1.0					
Surge(non-repetitive)forward current @60Hz half-sine wave, 1 cycle, T _a =25°C	I _{FSM}	A	30					
Storage temperature	T _{stg}	°C	-55 ~ +150					
Junction temperature	T _J	°C	-55 ~ +150					

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	E1AQ	E1BQ	E1DQ	E1FQ	E1GQ	E1JQ
Maximum instantaneous forward voltage drop per diode	V _F	V	I _{FM} =1.0A	1.0			1.3		1.7
Maximum reverse recovery time	T _{RR}	ns	I _F =0.5A, I _R =1.0A, I _{RR} =0.25A	35					
Typical junction capacitance	C _J	pF	V _R =4V, f=1MHz	21			13		
Maximum DC reverse current at rated DC blocking voltage per diode	I _{RRM}	μA	T _a =25°C	5					
			T _a =125°C	100					



E1AQ THRU E1JQ

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	E1AQ	E1BQ	E1DQ	E1FQ	E1GQ	E1JQ
Typical Thermal resistance	R _{θJ-A}	°C/W	85 ⁽¹⁾					
	R _{θJ-L}		35 ⁽¹⁾					

Note:

(1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm*3mm copper pad areas.

■ Characteristics (Typical)

Fig.1: I_O-T_L Curve

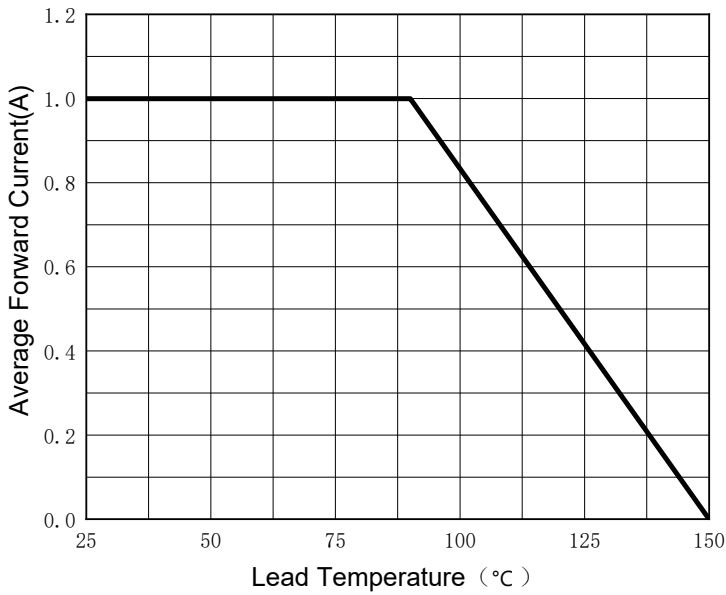


Fig.2: Surge Forward Current Capability

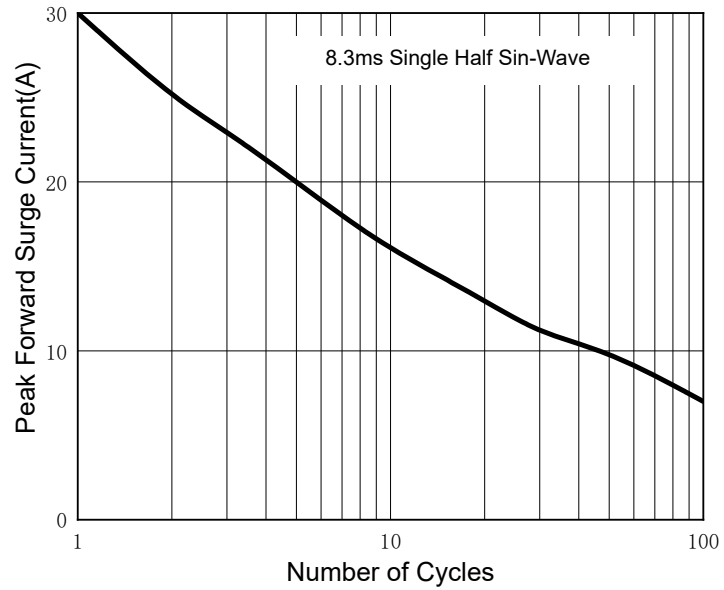


Fig.3: Typical Forward Characteristics

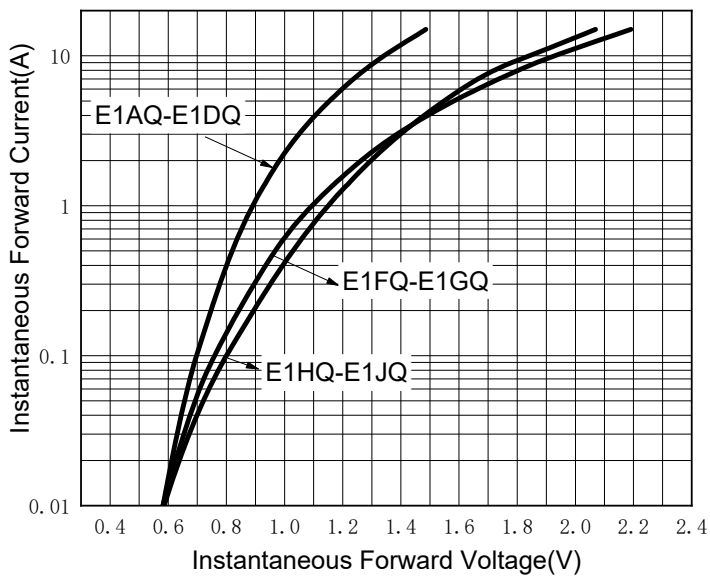


Fig.4: Typical Reverse Characteristics

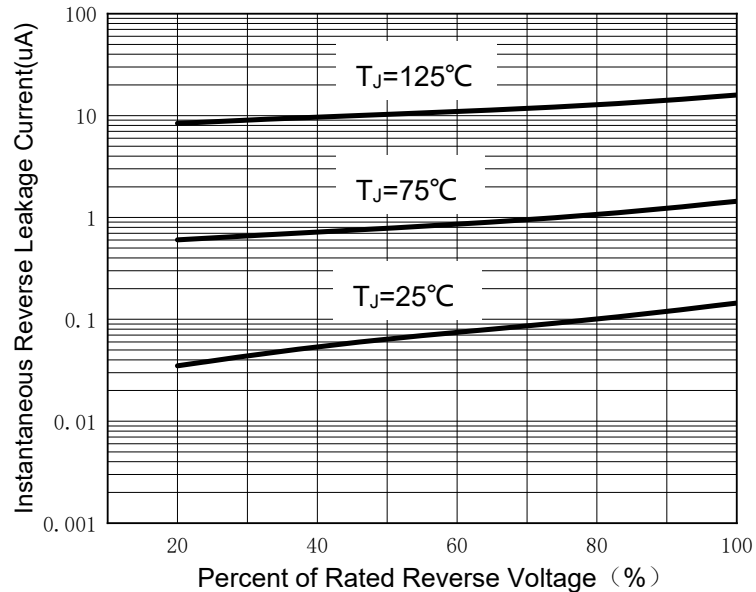
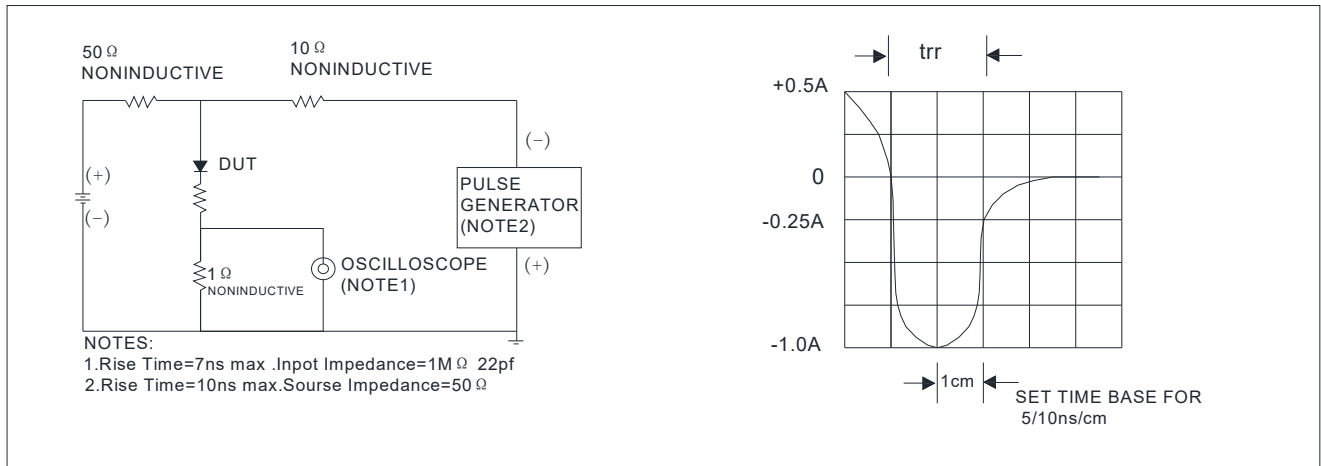


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



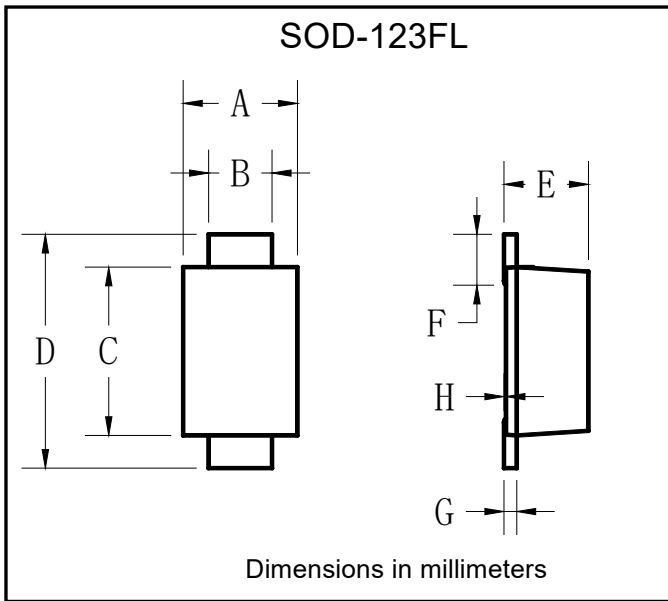
■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
E1AQ THRU E1JQ	F1	Approximate 0.0177	3000	30000	120000	7" reel



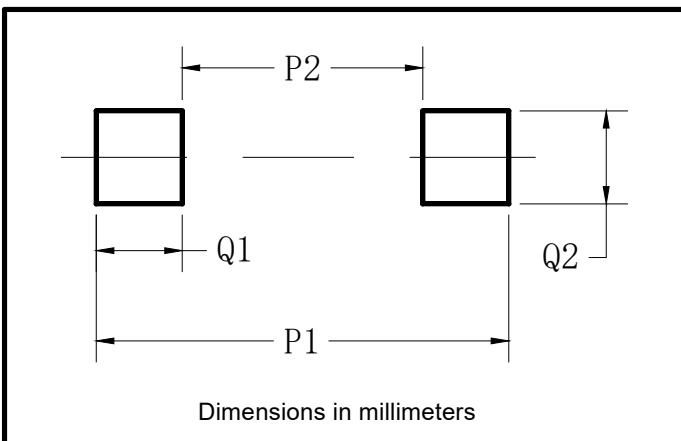
E1AQ THRU E1JQ

■ Outline Dimensions



SOD-123FL		
Dim	Min	Max
A	1.60	1.90
B	0.90	1.10
C	2.55	2.85
D	3.60	3.90
E	1.00	1.20
F	0.40	0.90
G	0.10	0.25
H	0.02	0.05

■ Suggested pad layout



SOD-123FL	
Dim	Millimeters
P1	3.90
P2	1.90
Q1	1.00
Q2	1.50



E1AQ THRU E1JQ

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with automotive electronics, are not designed for use in medical, lifesaving, lifesustaining, or military, Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.