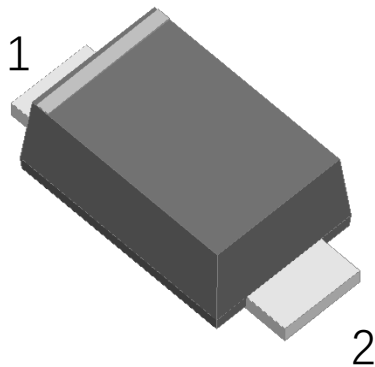


Surface Mount Super Fast Recovery Rectifier

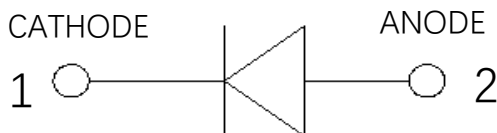


Features

- 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 (Ta=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, $T_a=25^\circ\text{C}$	I_{FSM}	A	30					
Storage temperature	T_{stg}	°C	-55 ~ +150					
Junction temperature	T_J	°C	-55 ~ +150					

■Electrical Characteristics (Ta=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	Ta=25℃	5					
			Ta=125℃	100					



E1AQ THRU E1JQ

■ Thermal Characteristics ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	E1AQ	E1BQ	E1DQ	E1FQ	E1GQ	E1JQ
Typical Thermal resistance	$R_{\theta J-A}$	$^{\circ}\text{C/W}$	85 ⁽¹⁾					
	$R_{\theta J-L}$		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

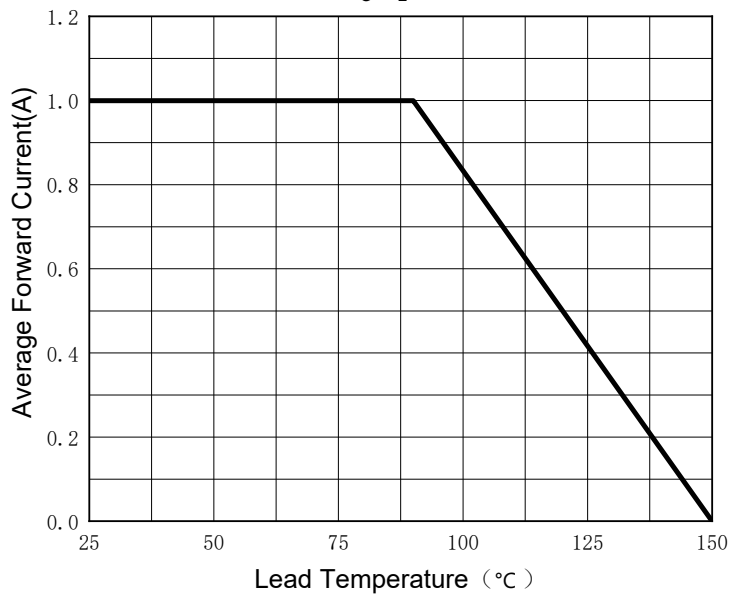


Fig.2: Surge Forward Current Capability

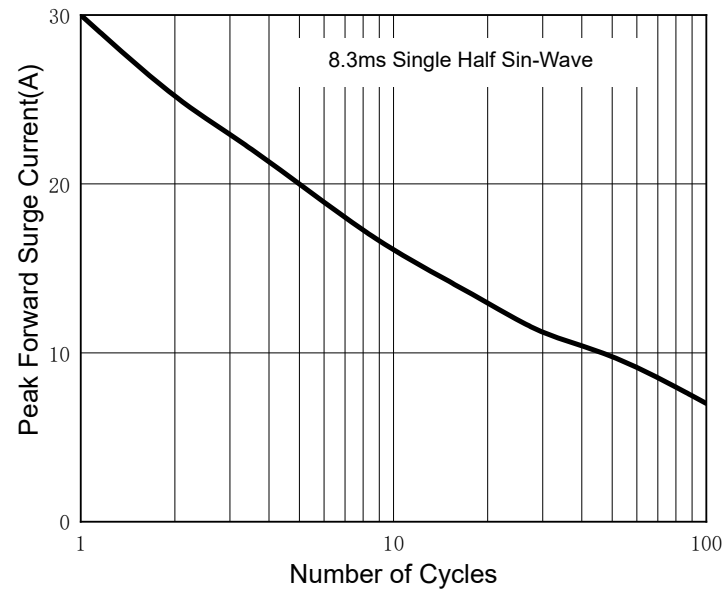


Fig.3: Typical Forward Characteristics

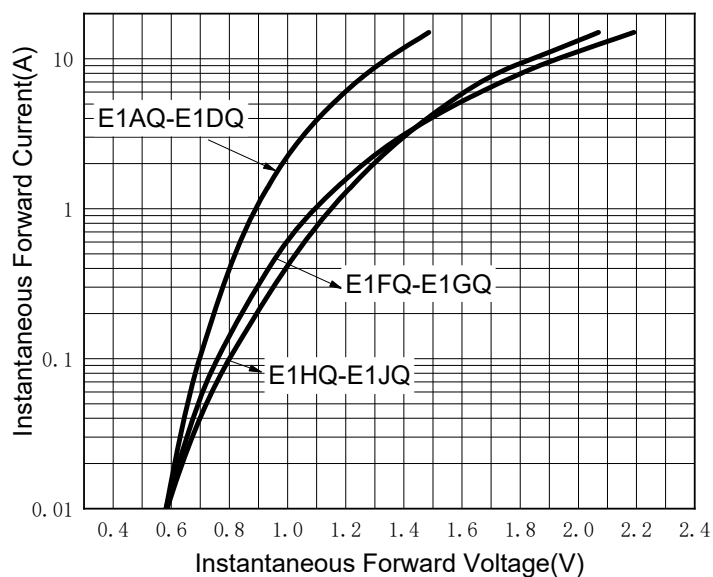
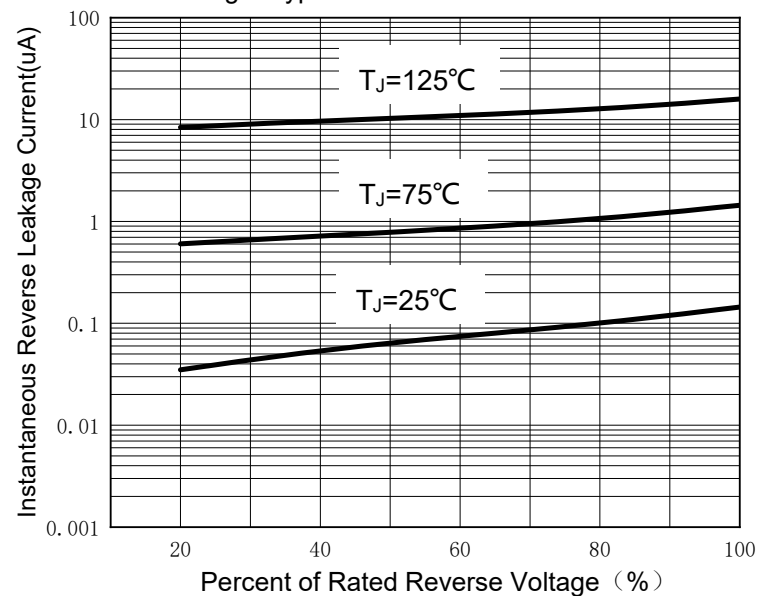


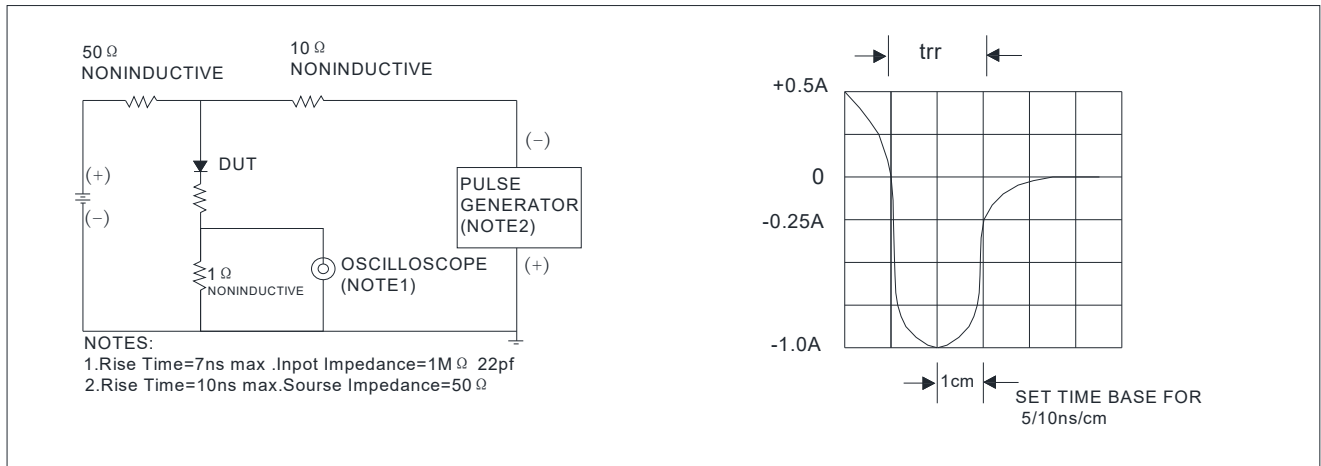
Fig.4: Typical Reverse Characteristics





E1AQ THRU E1JQ

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



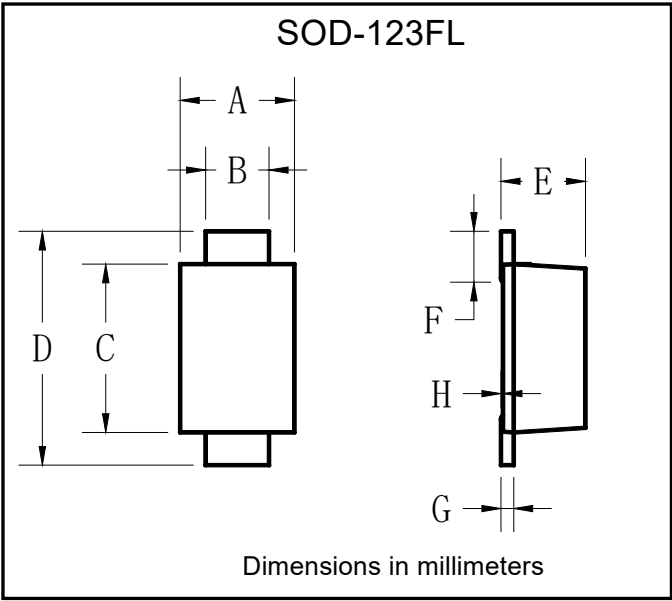
■ Ordering Information (Example)

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



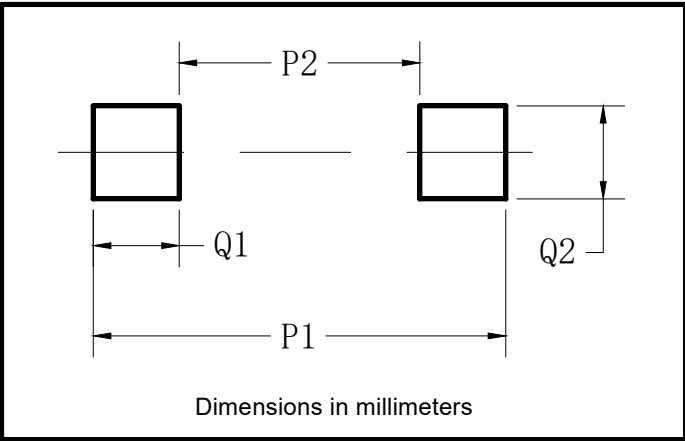
E1AQ THRU E1JQ

■ 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	0.05

■ Suggested pad layout



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



E1AQ THRU E1JQ

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