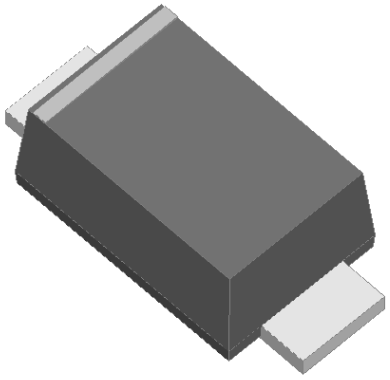
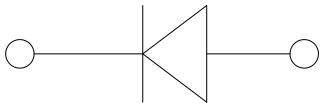
Surface Mount Super Fast Recovery Rectifier





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

Typical Applications

For use in super fast switching rectification of power supply, inverters, converters, and freewheeling diodes for consumer 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℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	E1A	E1B	E1D	E1F	E1G	E1J
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, Ta (FIG.1)	I_O	A	1.0					
Surge(non-repetitive)forward current @ 60Hz half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	30					
Storage temperature	Tstg	℃	-55 ~+150					
Junction temperature	Tj	℃	-55 ~+150					

■Electrical Characteristics (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	E1A	E1B	E1D	E1F	E1G	E1J
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					
Maximum DC reverse current at rated DC blocking voltage per diode	I_{RRM}	μA	Ta=25℃	5					
			Ta=125℃	100					

■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	E1A	E1B	E1D	E1F	E1G	E1J
Thermal resistance	RθJ-A	℃/W	60[1)]					
	RθJ-L		20[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)

FIG1:Io-TL Curve

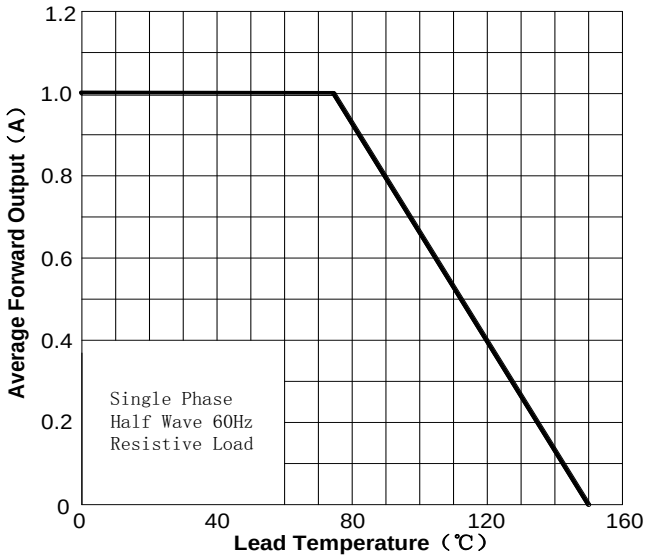


FIG2:Surge Forward Current Capability

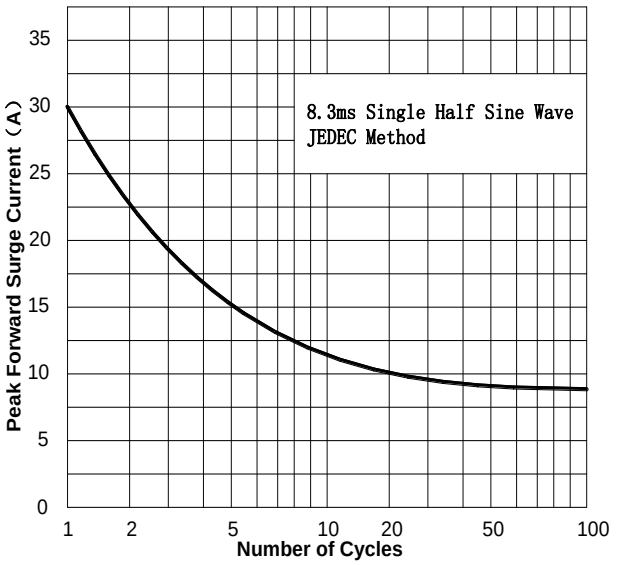


FIG3: Forward Voltage

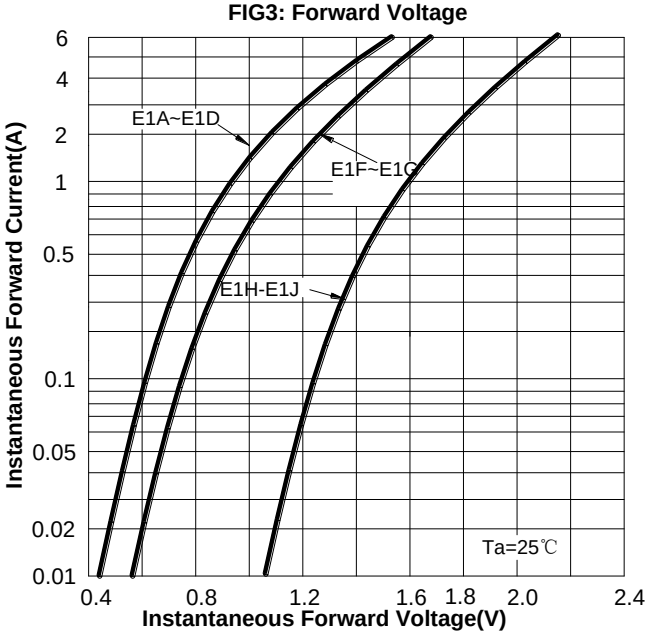


FIG4:Typical Reverse Characteristics

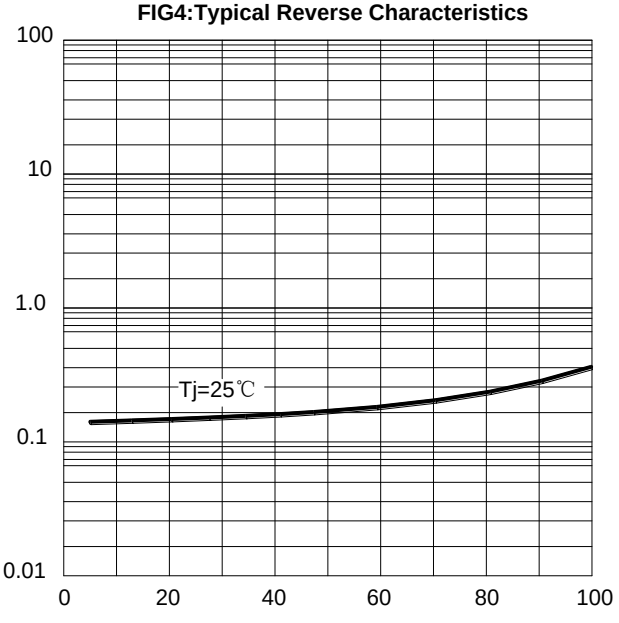
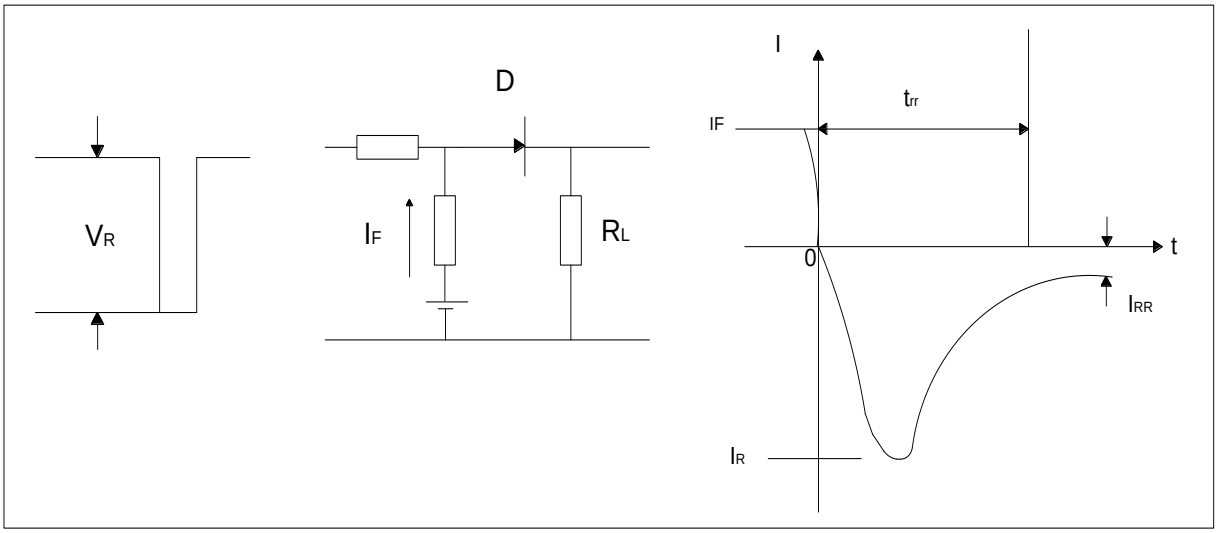


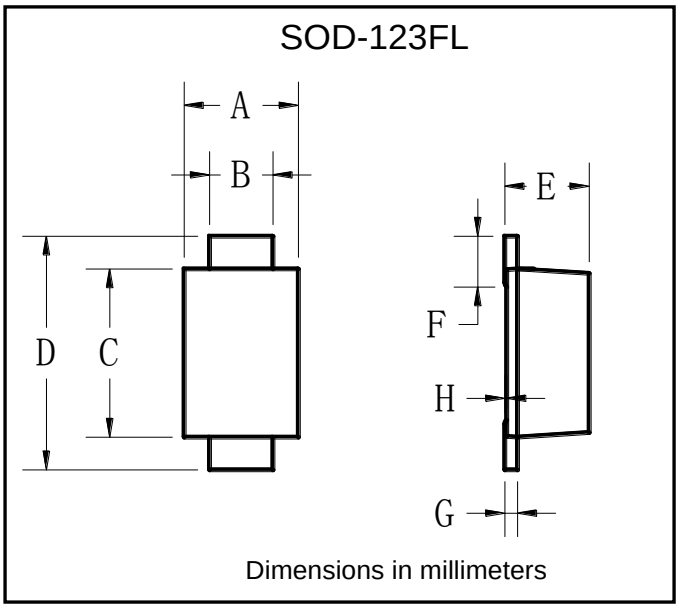
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■Ordering Information (Example)

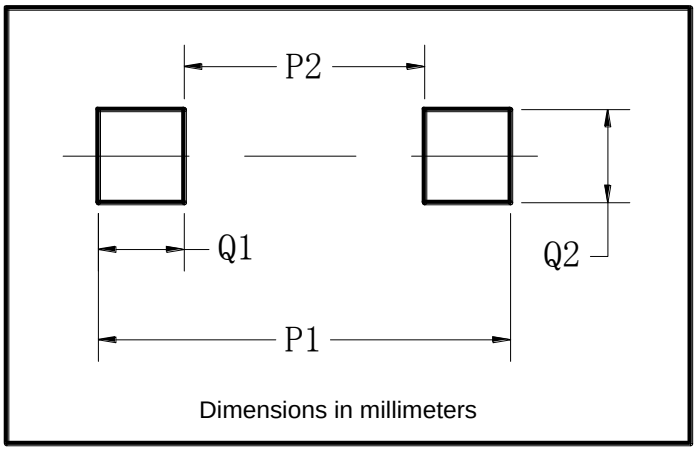
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
E1A THRU E1J	F1	Approximate 0.0169	3000	15000	120000	7” reel
E1A THRU E1J	F2	Approximate 0.0169	2500	12500	100000	7” reel
E1A THRU E1J	F3	Approximate 0.0169	10000	30000	210000	13” reel
E1A THRU E1J	F4	Approximate 0.0169	3000	27000	108000	7” reel
E1A THRU E1J	F5	Approximate 0.0169	10000	20000	160000	13” reel
E1A THRU E1J	F6	Approximate 0.0169	3000	12000	60000	7” reel

■ 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

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