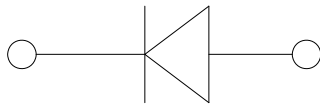
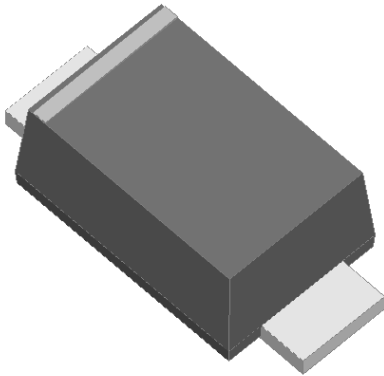


Surface Mount High Efficient Rectifier



Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- 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 high efficient switching rectification of power supply, inverters, converters, and freewheeling diodes for consumer and telecommunication.

Mechanical Data

- **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	H1Q
Device marking code			H1Q
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	V	1200
Maximum RMS Voltage	V _{RMS}	V	840
Maximum DC blocking Voltage	V _{DC}	V	1200
Average rectified output current @60Hz Half-sine wave, Resistance load, TL (FIG.1)	I _O	A	1.0
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _j =25°C	I _{FSM}	A	30
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25°C			60
Current squared time @1ms≤t≤8.3ms T _j =25°C	I ² t	A ² s	3.735
Storage temperature	T _{stg}	°C	-55 ~ +150
Junction temperature	T _j	°C	-55 ~ +150



H1Q

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	H1Q
Maximum instantaneous forward voltage	V _F	V	I _{FM} =1.0A	1.7
Maximum reverse recovery time	t _{rr}	ns	I _F =0.5A, I _R =1.0A, I _r =0.25A	75
Maximum DC reverse current at rated DC blocking voltage	I _R	μA	T _j =25°C	5
			T _j =125°C	100
Typical junction capacitance	C _j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	7

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

PARAMETER	SYMBOL	UNIT	H1Q
Typical Thermal resistance	R _{θJ-A} ⁽¹⁾	°C/W	75
	R _{θJ-L} ⁽¹⁾		25
	R _{θJ-C} ⁽¹⁾		22

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 Cure

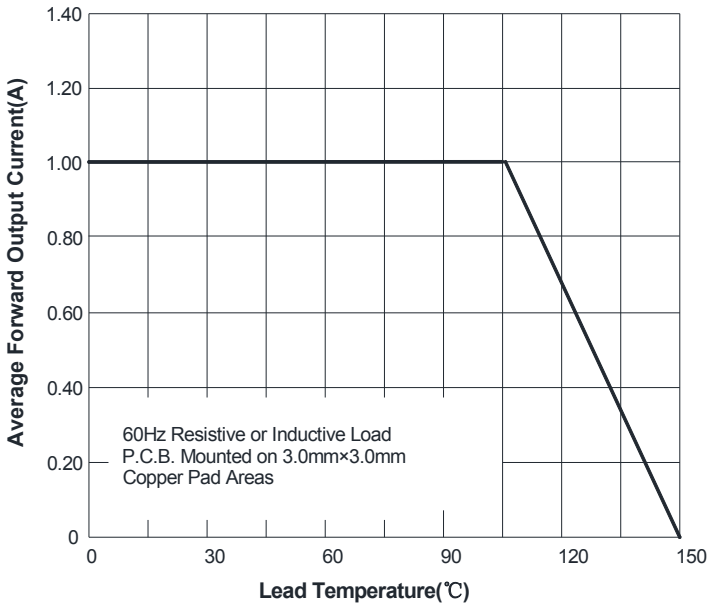


FIG.2: Forward Surge Current Capability

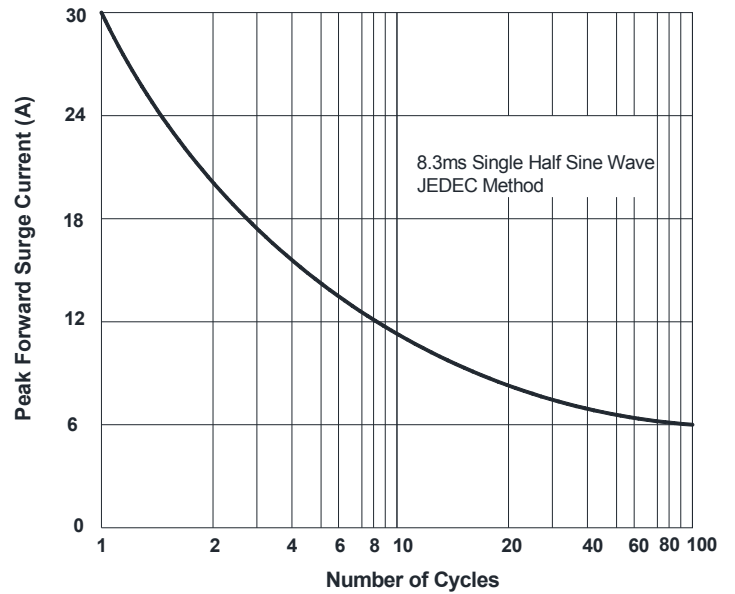


FIG.3: Typical Forward Characteristics

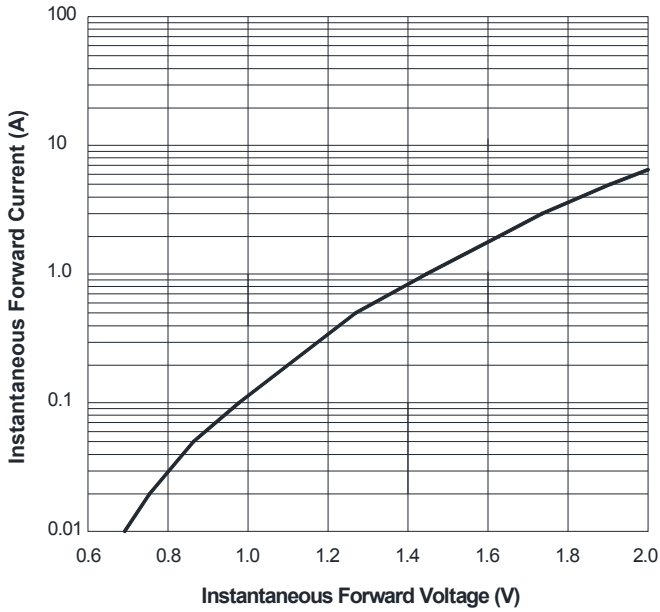


FIG.4: Typical Reverse Characteristics

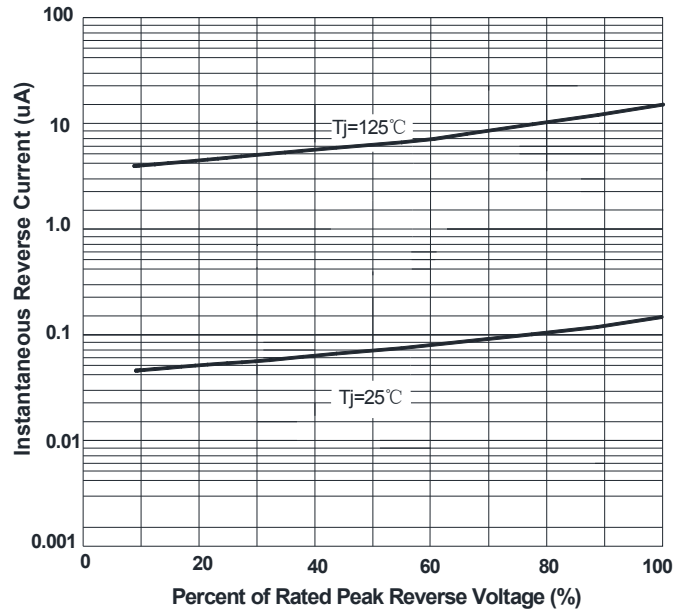
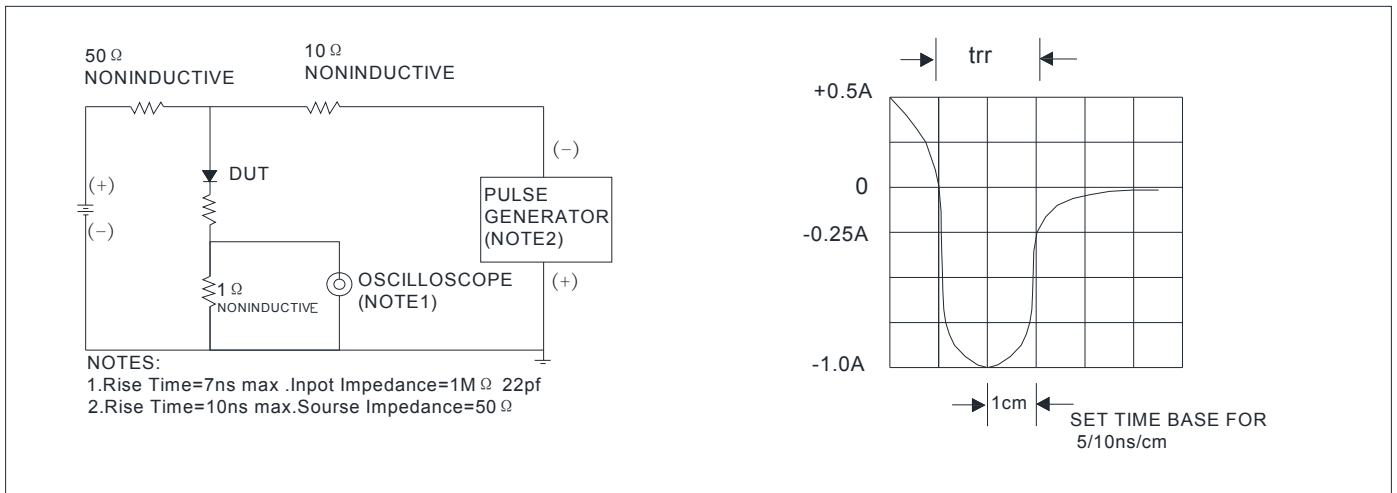


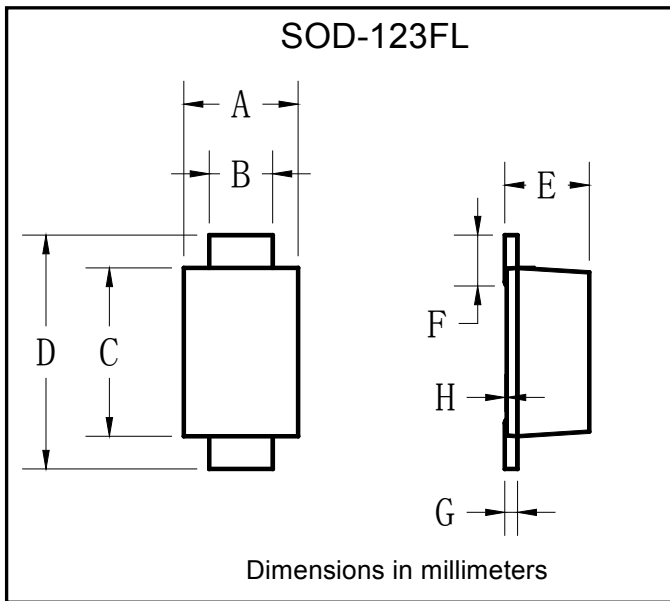
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



Ordering Information (Example)

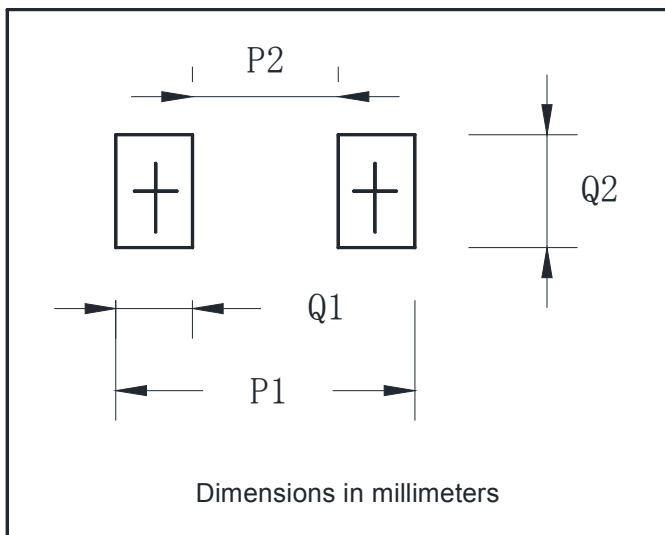
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
H1Q	F1	Approximate 0.0169	3000	30000	120000	7" reel
H1Q	F2	Approximate 0.0169	2500	25000	100000	7" reel
H1Q	F3	Approximate 0.0169	10000	/	210000	13" reel
H1Q	F4	Approximate 0.0169	3000	54000	108000	7" reel
H1Q	F5	Approximate 0.0169	10000	/	160000	13" reel
H1Q	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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