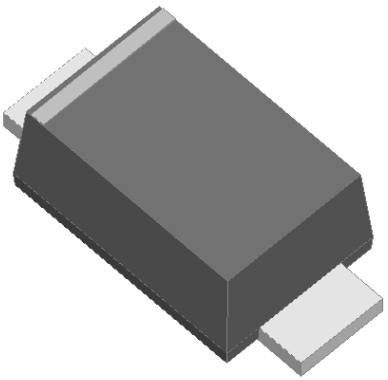
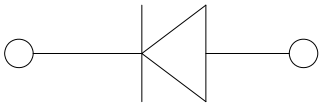
Surface Mount High Efficient Rectifier





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 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℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	H1QH
Device marking code			H1QH
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)	IO	A	1.0
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	30
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			60
Current squared time @1ms≤t≤8.3ms Tj=25℃	I^2t	A^2s	3.735
Storage temperature	T_{stg}	℃	-55 ~ +150
Junction temperature	T_j	℃	-55 ~ +150

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	H1QH
Maximum instantaneous forward voltage	V_F	V	I_{FM}=1.0A	1.9
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A，I_R=1.0A, I_{rr}=0.25A	75
Maximum DC reverse current at rated DC blocking voltage	I_R	μA	T_j =25℃	5
			T_j =125℃	100
Typical junction capacitance	Cj	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	7

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

PARAMETER	SYMBOL	UNIT	H1QH
Typical Thermal resistance	$R_{\theta J-A}$(1)	℃/W	75
	$R_{\theta J-L}$(1)		25
	$R_{\theta J-C}$(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: Io-TL Cure

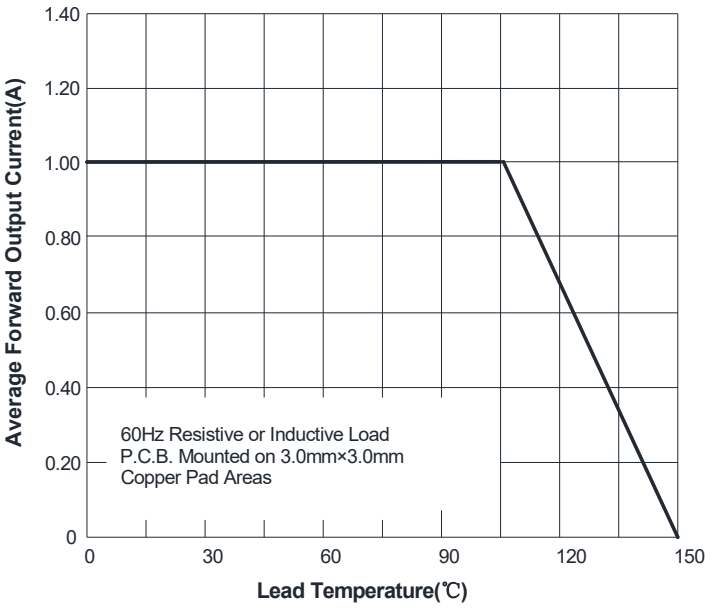


FIG.2: Forward Surge Current Capability

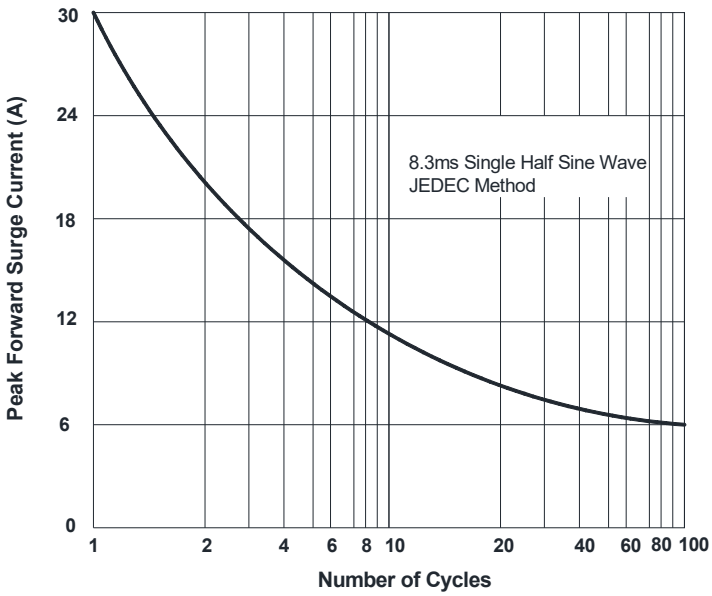


FIG.3: Typical Forward Characteristics

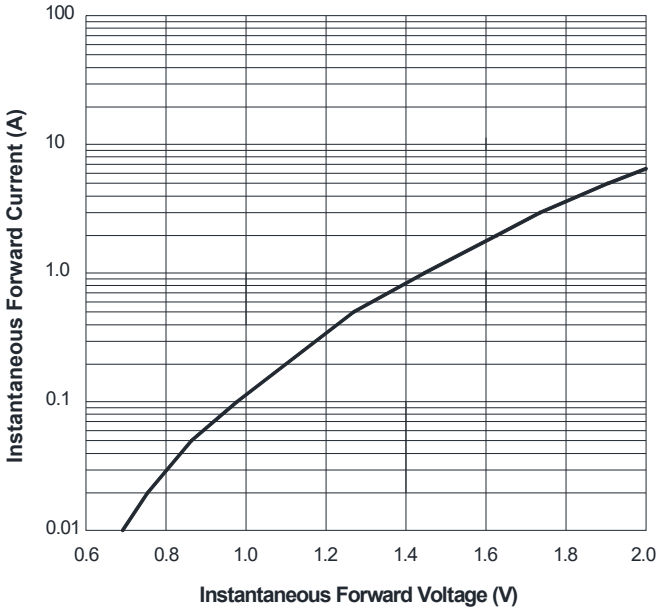


FIG.4: Typical Reverse Characteristics

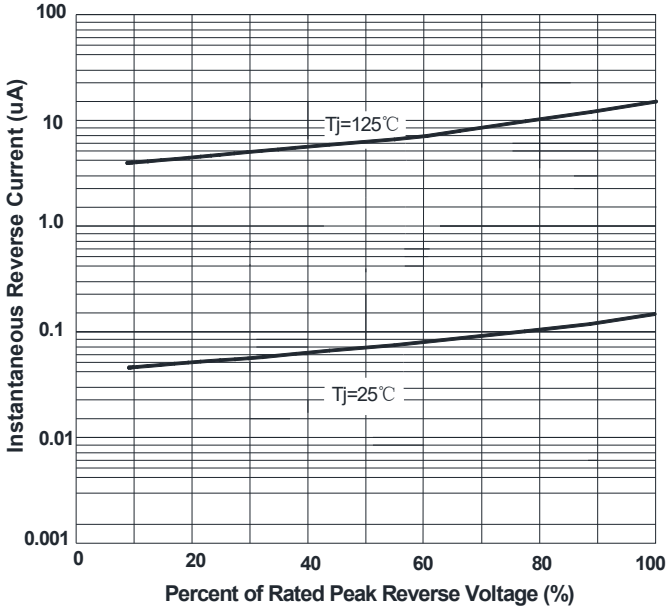
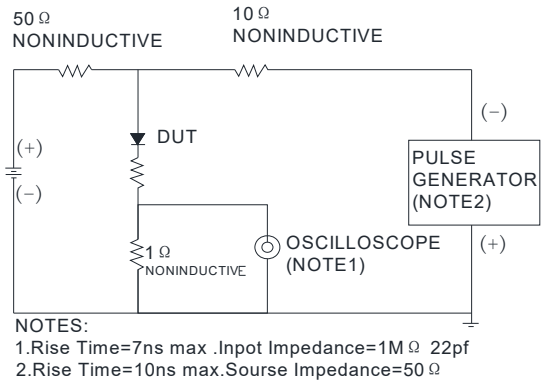
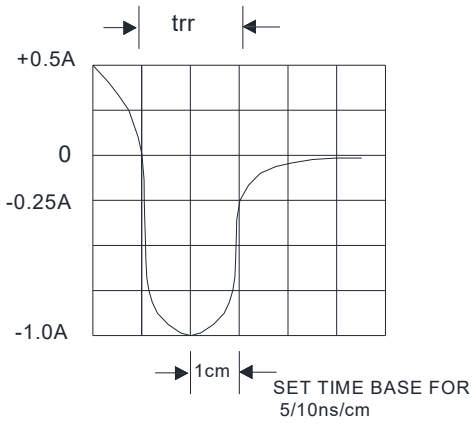


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

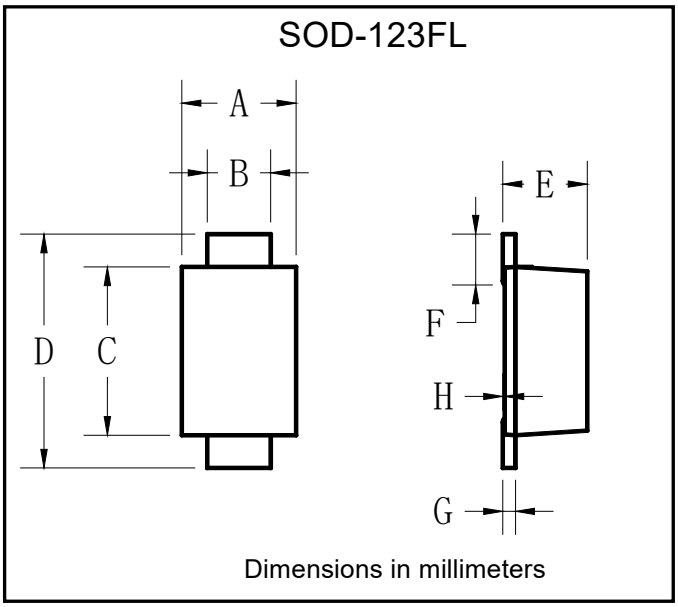




■Ordering Information (Example)

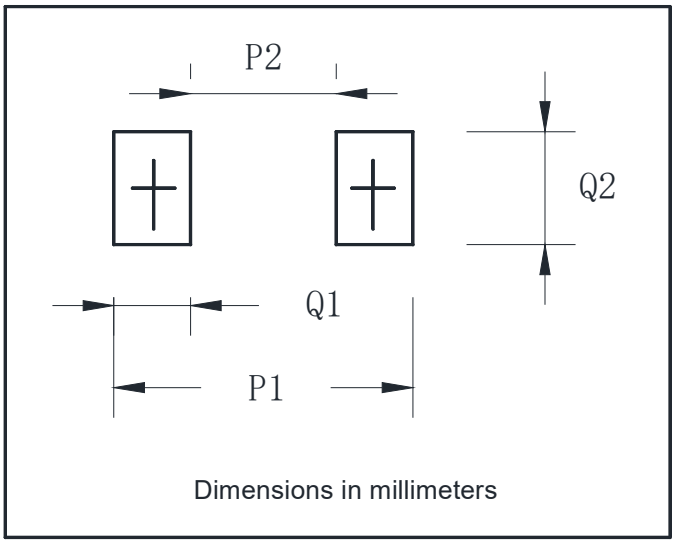
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
H1QH	F1	Approximate 0.0169	3000	30000	120000	7” reel
H1QH	F2	Approximate 0.0169	2500	25000	100000	7” reel
H1QH	F3	Approximate 0.0169	10000	/	210000	13” reel
H1QH	F4	Approximate 0.0169	3000	54000	108000	7” reel
H1QH	F5	Approximate 0.0169	10000	/	160000	13” reel
H1QH	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

Notice

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise. Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in STARSEA's terms and conditions of sale for such products, STARSEA assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of STARSEA products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.