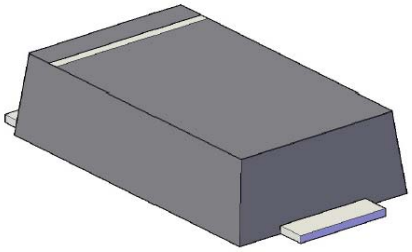
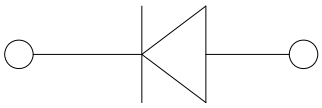
Surface Mount Fast Recovery Rectifier





Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Fast switching for fast recovery
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Typical Applications

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

Mechanical Date

- **Package**: SOD-123HE
  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	F2AE	F2BE	F2DE	F2GE	F2JE	F2KE	F2ME
Device marking code			F2AE	F2BE	F2DE	F2GE	F2JE	F2KE	F2ME
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V	35	70	140	280	420	560	700
Maximum DC blocking Voltage	V_{DC}	V	50	100	200	400	600	800	1000
Average rectified output current @60Hz sine wave, Resistance load, Ta (FIG.1)	I_O	A	2.0						
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	50						
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			100						
Current squared time @1ms≤t8.3≤ms Tj=25℃， Rating of per diode	I^2t	A^2s	10.375						
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	Cj	pF	18				11		
Storage temperature	T_{stg}	℃	-55 ~ +150						
Junction temperature	Tj	℃	-55 ~ +150						

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	F2AE	F2BE	F2DE	F2GE	F2JE	F2KE	F2ME
Maximum instantaneous forward voltage drop per diode	V_F	V	I_{FM}=2.0A	1.3						
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A, I_{rr}=0.25A	150				250	500	
Maximum DC reverse current at rated DC blocking voltage per diode	I_R	μA	T_j=25℃	5						
			T_j=125℃	100						

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

PARAMETER	SYMBOL	UNIT	F2AE	F2BE	F2DE	F2GE	F2JE	F2KE	F2ME
Typical Thermal resistance	$R_{\theta J-A}$(1)	℃/W	90						
	$R_{\theta J-L}$(1)		30						

Note：

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

■ Characteristics (Typical)

FIG.1: Io-TL Curve

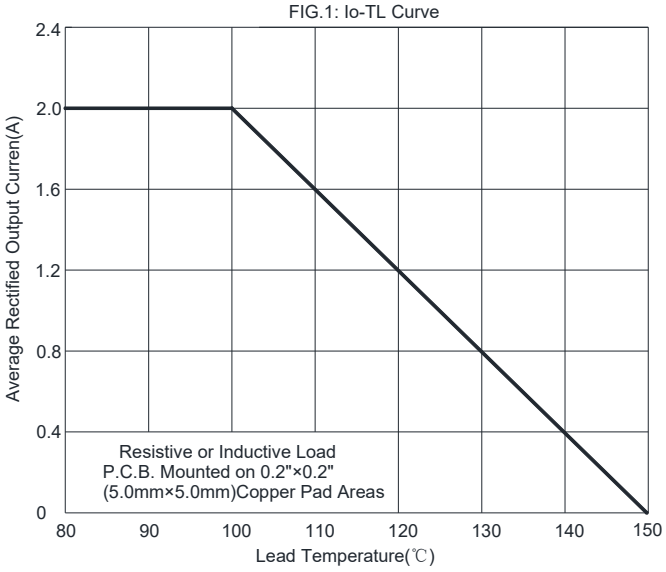


FIG2:Surge Forward Current Capability

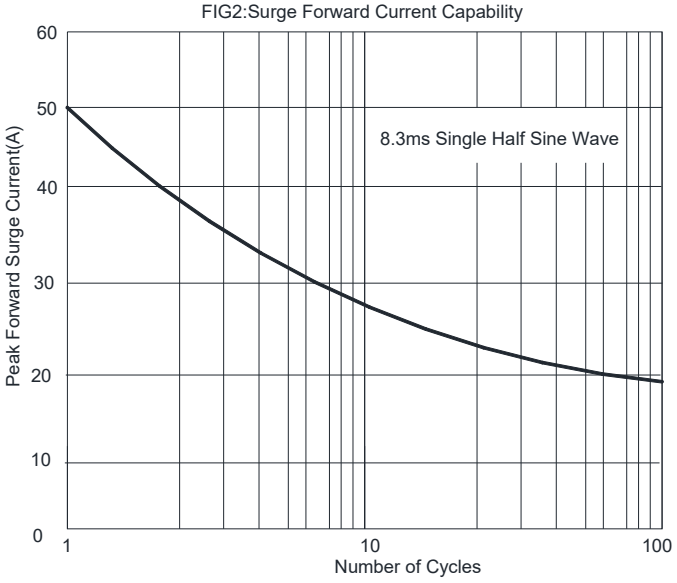


FIG.3: Typilcal Forward Characteristics

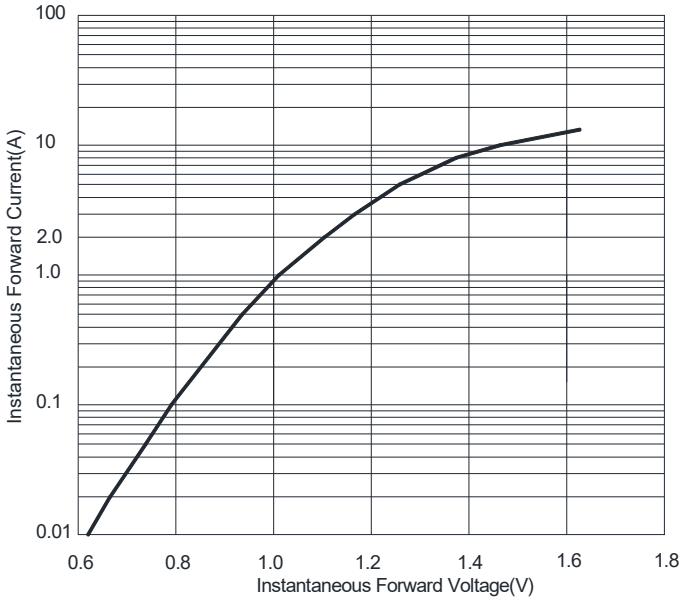


FIG4:Typical Reverse Characteristics

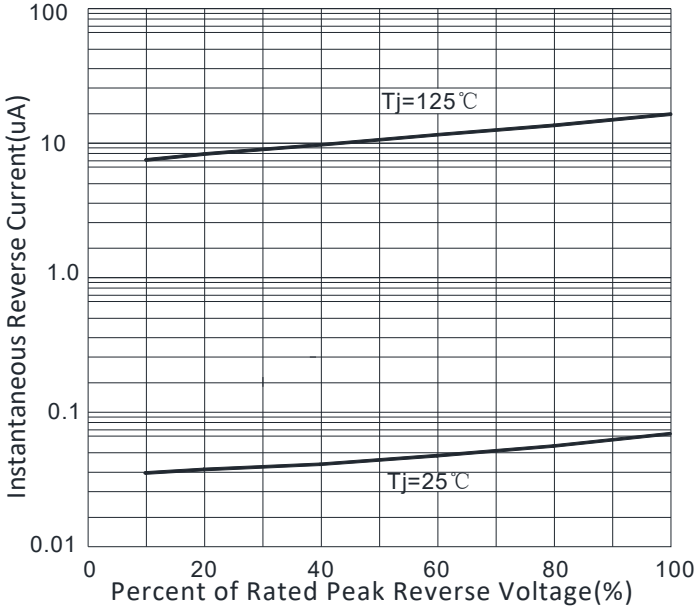
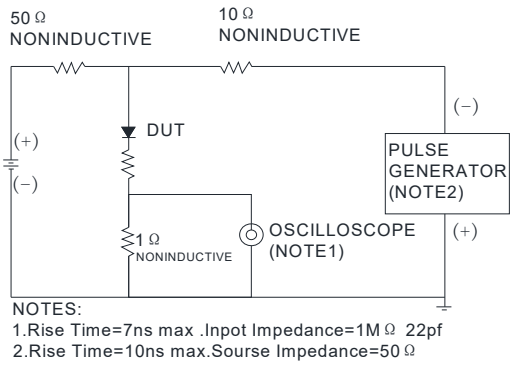
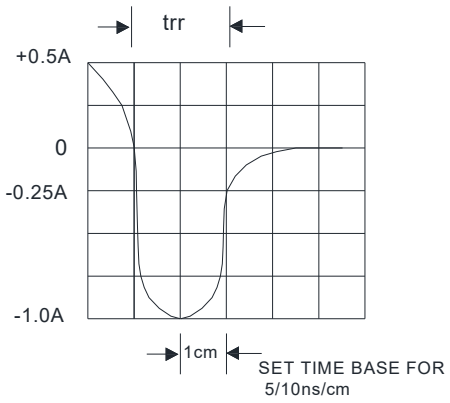
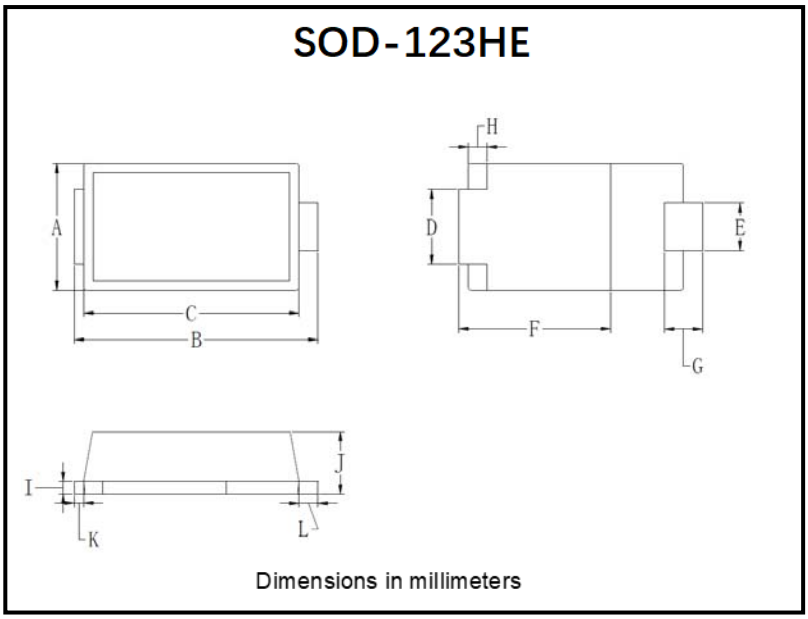


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



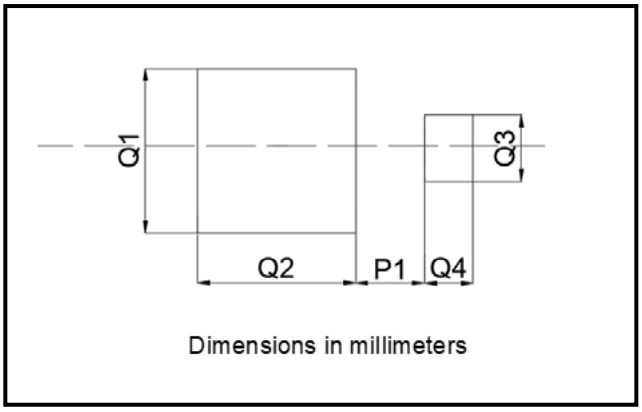


■ Outline Dimensions



SOD-123HE		
Dim	Min	Max
A	1.88	2.18
B	3.70	4.00
C	3.19	3.61
D	1.05	1.35
E	0.61	0.91
F	2.20	2.90
G	0.40	0.80
H	0.30 TYP	
I	0.10	0.30
J	0.85	1.15
K	0.00	0.30
L	0.15	0.45

■ Suggested pad layout



SOD-123HE	
Dim	Millimeters
P1	0.64
Q1	2.54
Q2	2.67
Q3	1.27
Q4	0.76

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