

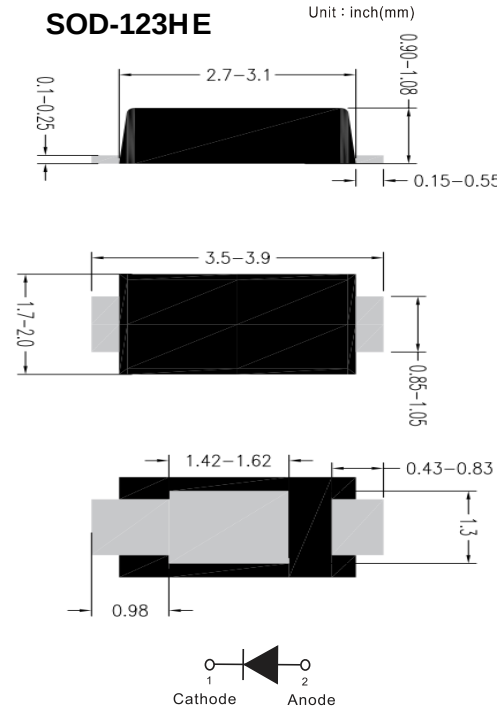
Surface Mount Super Fast Recovery Rectifier Diode

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

Mechanical Data

- **Package:** SOD-123HE
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end



Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Unit	ES2A HE	ES2B HE	ES2C HE	ES2D HE	ES2F HE	ES2G HE	ES2H HE	ES2J HE	ES2K HE
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	150	200	300	400	500	600	800
Maximum RMS Voltage	V_{RMS}	V	35	70	105	140	210	280	350	420	560
Maximum DC blocking Voltage	V_{DC}	V	50	100	150	200	300	400	500	600	800
Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1)	I_O	A	2.0								
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, $T_J=25^{\circ}\text{C}$	I_{FSM}	A	40								
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, $T_J=25^{\circ}\text{C}$			100								
Current squared time @1ms≤t≤8.3ms $T_J=25^{\circ}\text{C}$	I^2t	A^2s	10.375								
Storage temperature	T_{stg}	$^{\circ}\text{C}$	-55 ~ +150								
Junction temperature	T_J	$^{\circ}\text{C}$	-55 ~ +150								

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Unit	Test Conditions	ES2A HE	ES2B HE	ES2C HE	ES2D HE	ES2H HE	ES2G HE	ES2H HE	ES2J HE	ES2K HE
Maximum instantaneous forward voltage	V _F	V	I _{FM} =2.0A	1.0				1.3		1.7		2.2
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	I _R	μA	T _j =25°C	5.0								
			T _j =125°C	100								
Typical junction capacitance	C _j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	30				16		12		12

Thermal Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Unit	ES2AHE	ES2BHE	ES2CHE	ES2DHE	ES2FHE	ES2GHE	ES2HHE	ES2JHE	ES2KHE
Typical Thermal resistance	$R_{\theta J-(1)A}$	$^\circ\text{C/W}$	90								
	$R_{\theta J-(1)L}$		30								

Note:

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas



Characteristics Curves

FIG1: Io-TL Curve

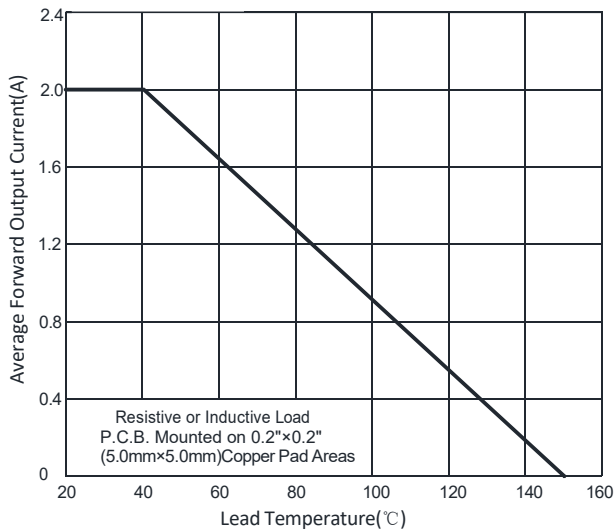


FIG2: Surge Forward Current Capability

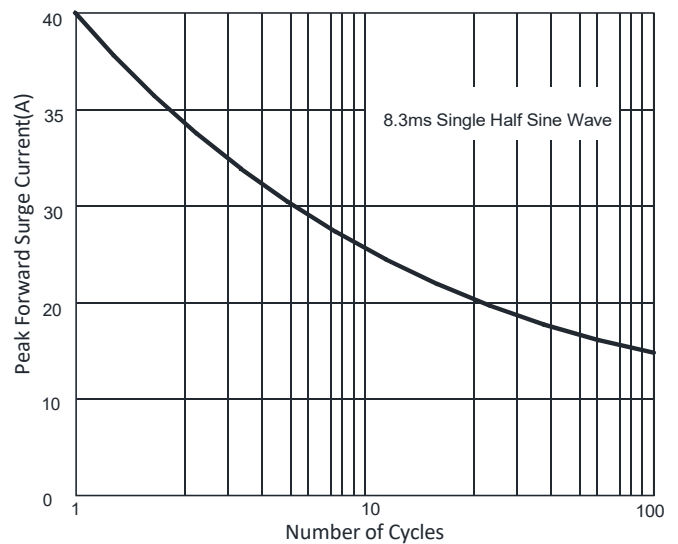


FIG3: Typical Forward Voltage

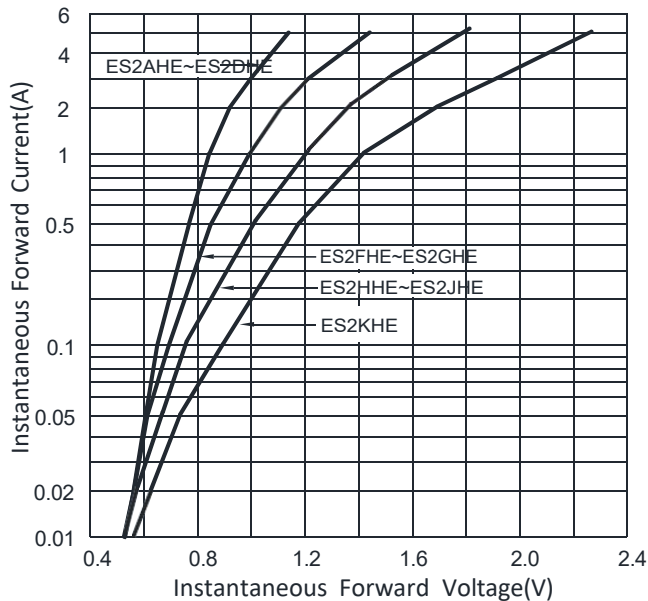


FIG4: Typical Reverse Characteristics

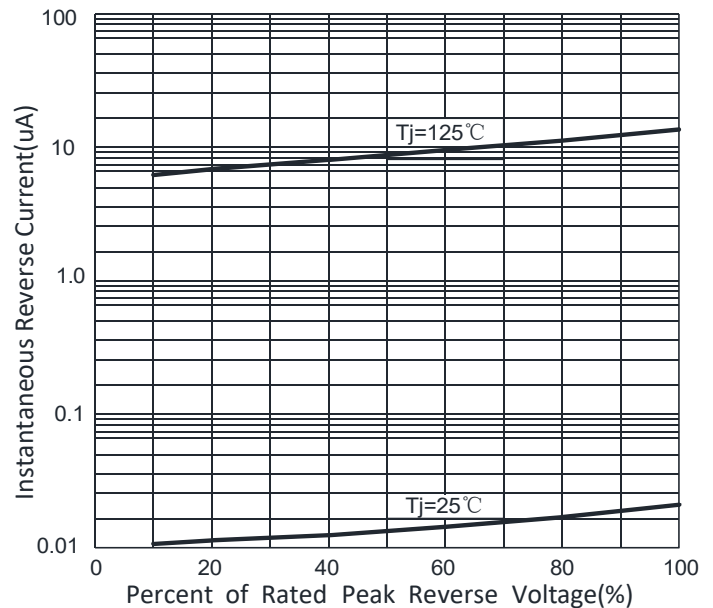


FIG5: Diagram of circuit and Testing wave form of reverse recovery time

