

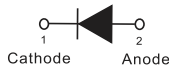
Surface Mount Super Fast Recovery Rectifier Diode

Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Super fast switching for high efficiency
- High forward surge capability
- AEC-Q101 qualified
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

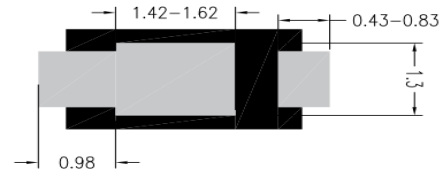
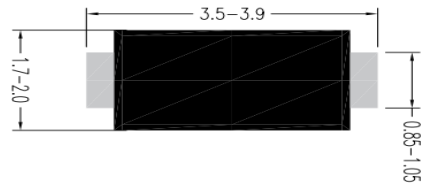
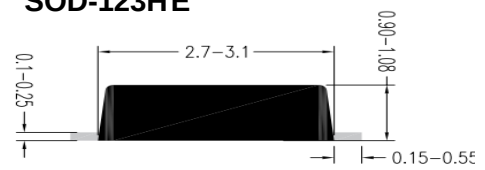
Mechanical Data

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



SOD-123HE

Unit : inch(mm)



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

Parameter	Symbol	Unit	ES1A HEQ	ES1B HEQ	ES1D HEQ	ES1F HEQ	ES1G HEQ	ES1J HEQ
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	200	300	400	600
Maximum RMS Voltage	V_{RMS}	V	35	70	140	210	280	420
Maximum DC blocking Voltage	V_{DC}	V	50	100	200	300	400	600
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I_O	A	1.0					
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, $T_J=25^\circ\text{C}$	I_{FSM}	A	30					
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, $T_J=25^\circ\text{C}$			60					
Current squared time @1ms≤t≤8.3ms $T_J=25^\circ\text{C}$	I^2t	A ² s	3.735					
Storage temperature	T_{stg}	°C	-55 ~ +150					
Junction temperature	T_J	°C	-55 ~ +150					

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

Parameter	Symbol	Unit	Test Conditions	ES1A HEQ	ES1B HEQ	ES1D HEQ	ES1F HEQ	ES1G HEQ	ES1J HEQ
Maximum instantaneous forward voltage	V _F	V	I _{FM} =1.0A	0.95			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	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	18			12		7

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

Parameter	Symbol	Unit	ES1A HEQ	ES1B HEQ	ES1D HEQ	ES1F HEQ	ES1G HEQ	ES1J HEQ
Typical Thermal resistance	⁽¹⁾ $R_{\theta J-A}$	$^{\circ}\text{C/W}$	60					
	⁽¹⁾ $R_{\theta J-L}$		20					
	⁽¹⁾ $R_{\theta J-C}$		18					

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 Curves

FIG1:Io-TL Curve

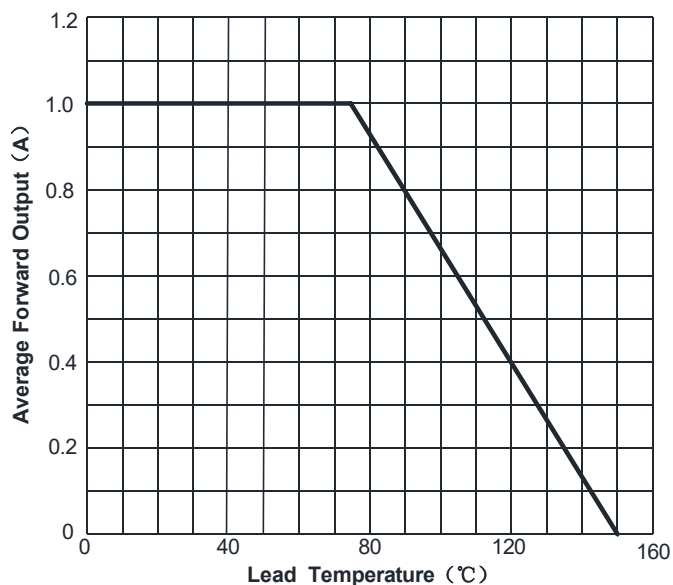


FIG2:Surge Forward Current Capability

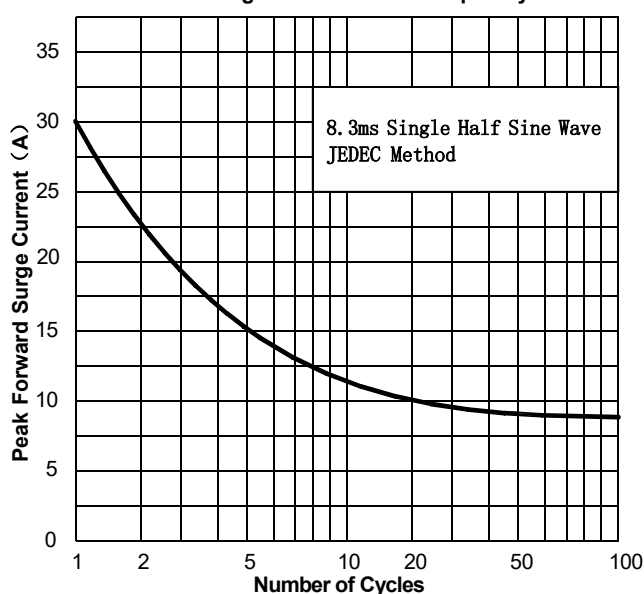


FIG3:Typical Forward Voltage

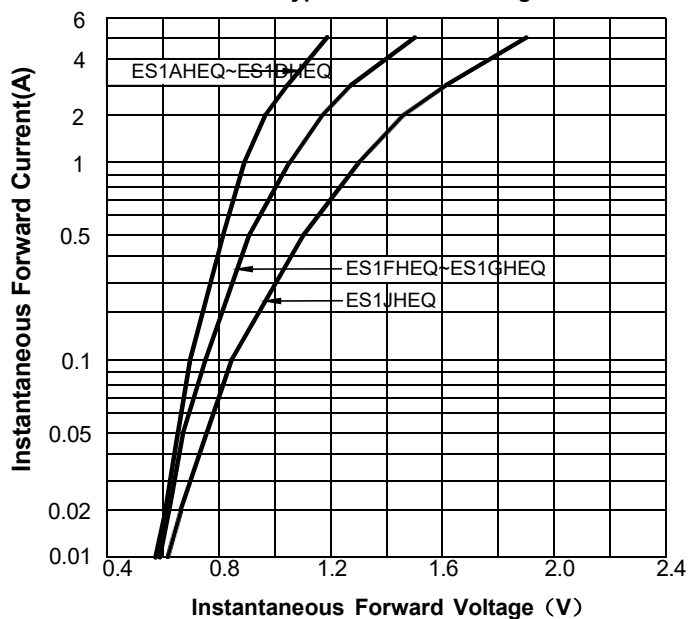


FIG4:Typical Reverse Characteristics

