

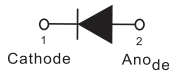
Surface Mount Rectifier Diode

Features

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

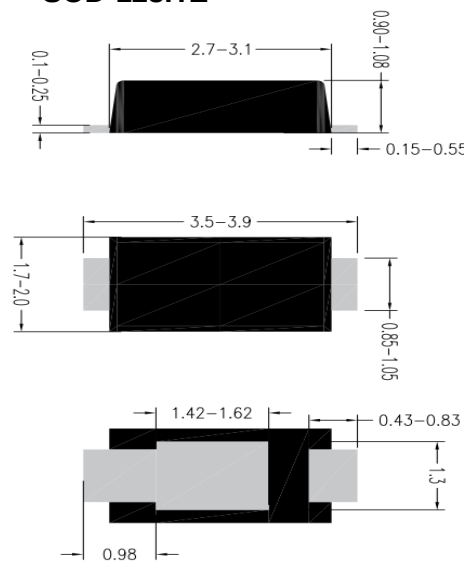
Mechanical Data

- Package: SOD-123HE
- Terminals: Tin plated leads, solderable per
- 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	S1AHEQ	S1BHEQ	S1DHEQ	S1GHEQ	S1JHEQ	S1KHEQ	S1MHEQ
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, 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^2s	3.735						
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	S1AHEQ	S1BHEQ	S1DHEQ	S1GHEQ	S1JHEQ	S1KHEQ	S1MHEQ
Maximum instantaneous forward voltage	V_F	V	$I_{FM}=1.0A$	1.1						
Maximum DC reverse current at rated DC blocking voltage	I_R	μA	$T_j = 25^\circ\text{C}$	5						
			$T_j = 125^\circ\text{C}$	100						
Typical junction capacitance	C_j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	7						

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

Parameter	Symbol	Unit	S1AHEQ	S1BHEQ	S1DHEQ	S1GHEQ	S1JHEQ	S1KHEQ	S1MHEQ
Typical Thermal resistance	$R_{\theta J-A}^{(1)}$	$^{\circ}\text{C/W}$	70						
	$R_{\theta J-L}^{(1)}$		20						
	$R_{\theta J-C}^{(1)}$		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 (Typical)

FIG.1: I_o - T_L Curve

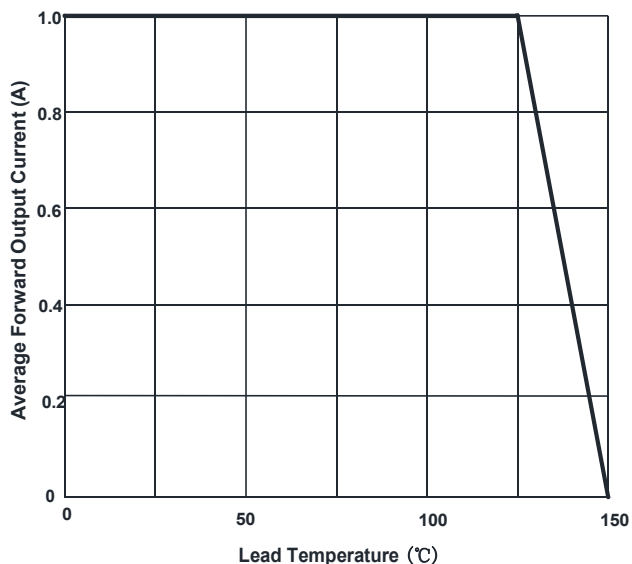


FIG.2: Forward Surge Current Capability

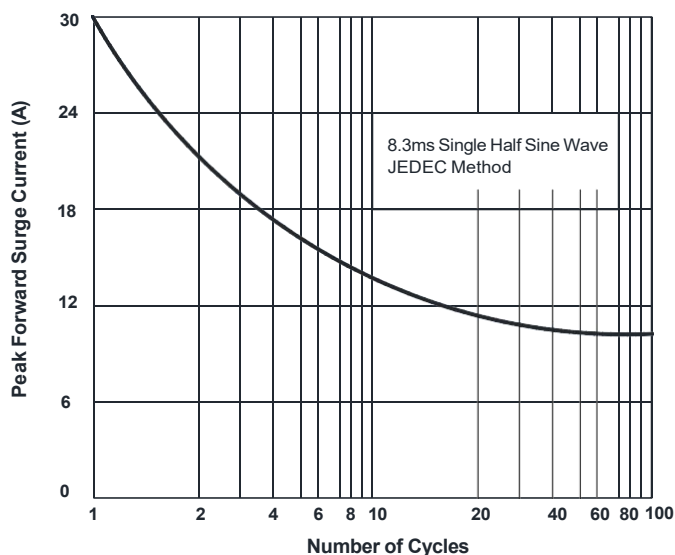


FIG.3: Typical Forward Voltage

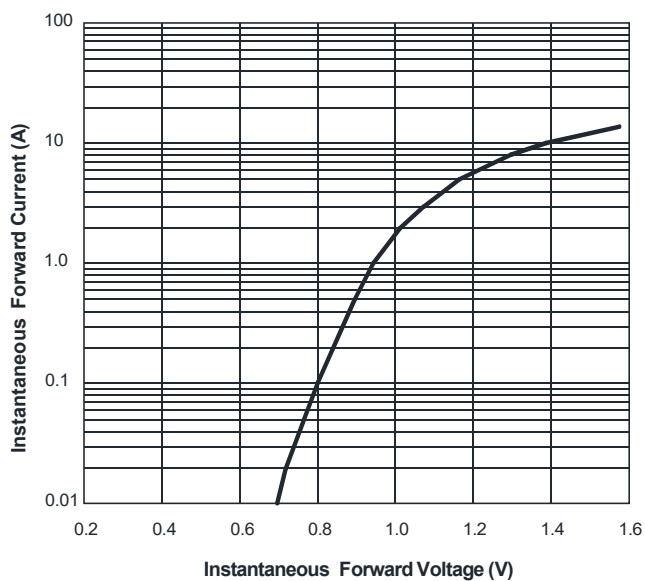


FIG.4: Typical Reverse Characteristics

