

Surface Mount Rectifier Diode

Features

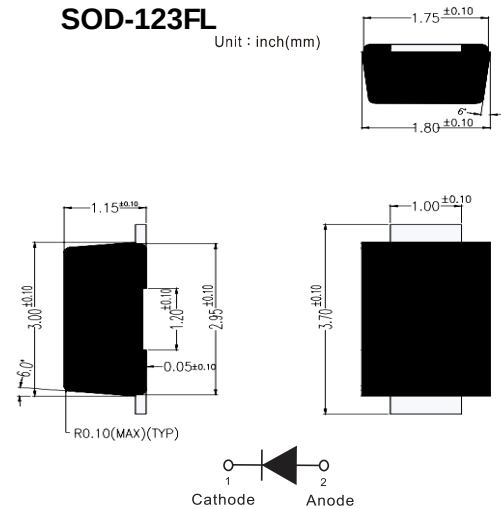
- Glass passivated junction chip
- Ideal for automated placement
- Low forward voltage drop
- High surge current capability
- AEC-Q101 qualified
- Comply with RoHS standard, halogen-free

Mechanical Data

- package: SOD-123FL
- Polarity: Indicated by cathode band
- Epoxy: UL 94V-0 rate flame retardant
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

SOD-123FL

Unit : inch(mm)



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

Parameter	Symbol	Unit	S1AFLQ	S1BFLQ	S1DFLQ	S1GFLQ	S1JFLQ	S1KFLQ	S1MFLQ
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 ² s	3.735						
Storage temperature	T_{stg}	°C	-55 ~ +150						
Junction temperature	T_j	°C	-55 ~ +150						

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

Parameter	Symbol	Unit	Test Conditions	S1AFLQ	S1BFLQ	S1DFLQ	S1GFLQ	S1JFLQ	S1KFLQ	S1MFLQ
Maximum instantaneous forward voltage	V_F	V	$I_{FM}=1.0\text{A}$	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						



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

Parameter	Symbol	Unit	S1AFLQ	S1BFLQ	S1DFLQ	S1GFLQ	S1JFLQ	S1KFLQ	S1MFLQ
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 ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

FIG.1: I_o -TL Curve

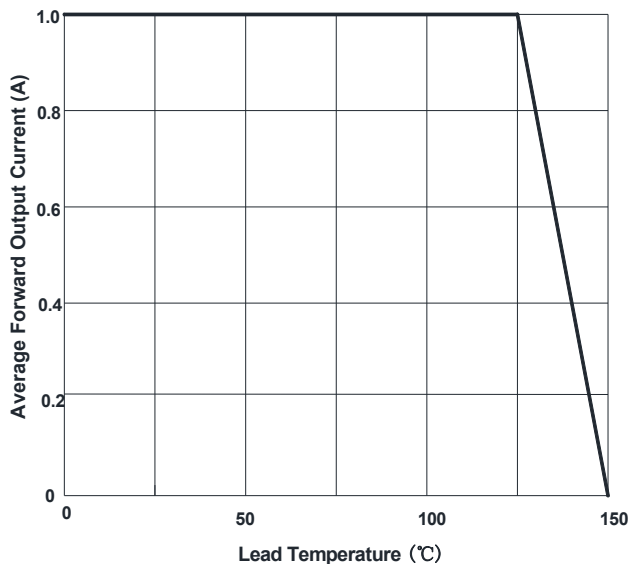


FIG.2: Forward Surge Current Capability

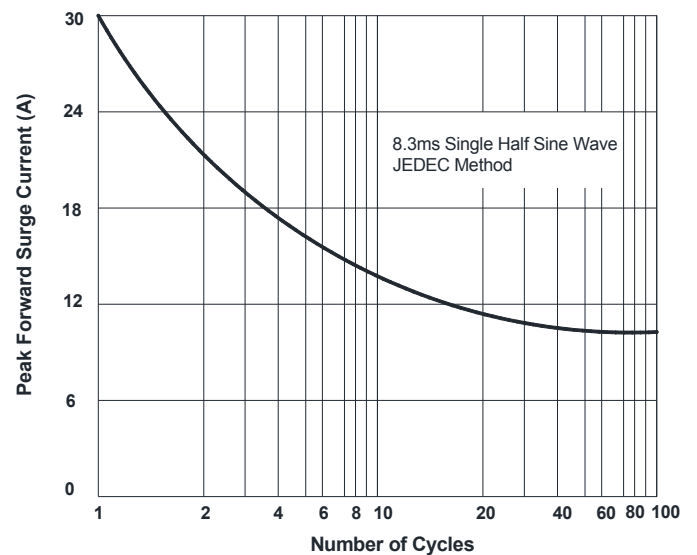


FIG.3: Typical Forward Voltage

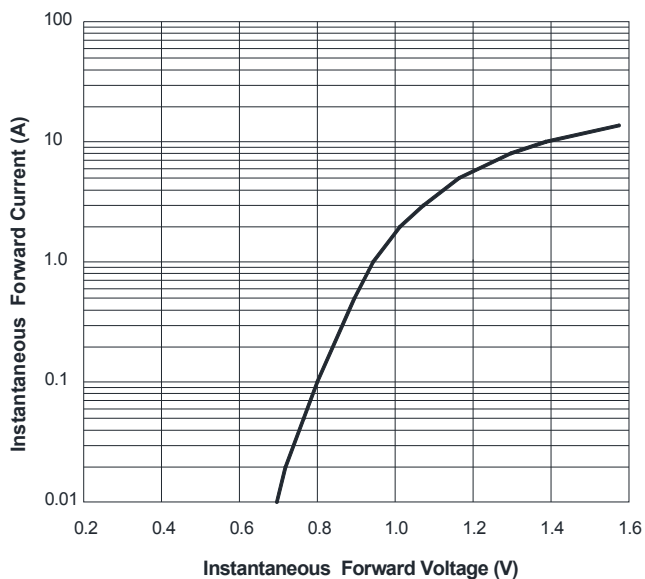


FIG.4: Typical Reverse Characteristics

