



1. Features

- For surface mounted applications in order to optimize board space.
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Fammability Classification 94V-0
- High temperature soldering : 260°C /10 seconds at terminals

Case: SOD-123FL



2. Mechanical Data

- Case: SOD-123FL, molded plastic
- Terminals: plated leads solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting position: Any



3. Maximum Ratings and Electrical Characteristics

Rating at 25°C Ambient temperature unless otherwise specified. Resistive or inductive load,
For Capacitive load derate current by 20%.

Parameter	Symbol	Value	Unit
Peak pulse power dissipation with a 10/1000 μ s waveform ⁽¹⁾ Fig.2	P_{PPM}	200	W
Peak pulse current with a waveform ⁽¹⁾	I_{PPM}	See next table	A
Power dissipation on infinite heatsink at $T_L=75^{\circ}\text{C}$	P_D	0.4	W
Peak forward surge current 8.3 ms single half sine-wave uni-directional only ⁽²⁾	I_{FSM}	20	A
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

Note:

(1) Non-repetitive current pulse per Fig.3 and derated above $T_A=25^{\circ}\text{C}$ per Fig.1.

(2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.

**4. Electrical Characteristics (TA=25°C unless otherwise noted)**

Part Number (Uni)	Marking Code	Breakdown Voltage $V_{BR@I_T}$			Maximum Reverse Leakage $I_R@V_{RWM}(uA)$	Working Peak Reverse Voltage $V_{RWM}(V)$	Maximum Reverse Surge Current $I_{pp}(A)$	Maximum Clamping Voltage $V_c@I_{pp}(V)$
	Uni	Min(V)	Max(V)	$I_T(mA)$				
SODJ5.0A	HE	6.4	7.0	10	500	5.0	21.7	9.2
SODJ6.0A	HG	6.7	7.4	10	500	6.0	19.4	10.3
SODJ6.5A	HK	7.2	8.0	10	250	6.5	17.9	11.2
SODJ7.0A	HM	7.8	8.6	10	100	7.0	16.7	12.0
SODJ7.5A	HP	8.3	9.2	1	50	7.5	15.5	12.9
SODJ8.0A	HR	8.9	9.8	1	25	8.0	14.7	13.6
SODJ8.5A	HT	9.4	10.4	1	10	8.5	13.9	14.4
SODJ9.0A	HV	10.0	11.1	1	5	9.0	13.0	15.4
SODJ10A	HX	11.1	12.3	1	2.5	10.0	11.8	17.0
SODJ11A	HZ	12.2	13.5	1	2.5	11.0	11.0	18.2
SODJ12A	IE	13.3	14.7	1	2.5	12.0	10.1	19.9
SODJ13A	IG	14.4	15.9	1	1	13.0	9.3	21.5
SODJ14A	IK	15.6	17.2	1	1	14.0	8.6	23.2
SODJ15A	IM	16.7	18.5	1	1	15.0	8.2	24.4
SODJ16A	IP	17.8	19.7	1	1	16.0	7.7	26.0
SODJ17A	IR	18.9	20.9	1	1	17.0	7.2	27.6
SODJ18A	IT	20	22.1	1	1	18.0	6.8	29.2
SODJ20A	IV	22.2	24.5	1	1	20.0	6.2	32.4
SODJ22A	IX	24.4	26.9	1	1	22.0	5.6	35.5
SODJ24A	IZ	26.7	29.5	1	1	24.0	5.1	38.9
SODJ26A	JE	28.9	31.9	1	1	26.0	4.8	42.1
SODJ28A	JG	31.1	34.4	1	1	28.0	4.4	45.4
SODJ30A	JK	33.3	36.8	1	1	30.0	4.1	48.4
SODJ33A	JM	36.7	40.6	1	1	33.0	3.8	53.3
SODJ36A	JP	40.0	44.2	1	1	36.0	3.4	58.1
SODJ40A	JR	44.4	49.1	1	1	40.0	3.1	64.5
SODJ43A	JT	47.8	52.8	1	1	43.0	2.9	69.4
SODJ45A	JV	50.0	55.3	1	1	45.0	2.8	72.7
SODJ48A	JX	53.3	58.9	1	1	48.0	2.6	77.4
SODJ51A	JZ	56.7	62.7	1	1	51.0	2.4	82.4
SODJ54A	RE	60.0	66.3	1	1	54.0	2.3	87.1



4. Electrical Characteristics (TA=25°C unless otherwise noted)

Part Number (Uni)	Marking Code	Breakdown Voltage $V_{BR}@I_T$			Maximum Reverse Leakage $I_R@V_{RWM}(\mu A)$	Working Peak Reverse Voltage $V_{RWM}(V)$	Maximum Reverse Surge Current $I_{PP}(A)$	Maximum Clamping Voltage $V_C@I_{PP}(V)$
	Uni	Min(V)	Max(V)	$I_T(mA)$				
SODJ58A	RG	64.4	71.2	1	1	58.0	2.14	93.6
SODJ60A	RK	66.7	73.7	1	1	60.0	2.07	96.8
SODJ64A	RM	71.1	78.6	1	1	64.0	1.94	103.0
SODJ70A	RP	77.8	86.0	1	1	70.0	1.77	113.0
SODJ75A	RR	83.3	92.1	1	1	75.0	1.65	121.0
SODJ78A	RT	86.7	95.8	1	1	78.0	1.59	126.0
SODJ85A	RV	94.4	104.0	1	1	85.0	1.46	137.0
SODJ90A	RX	100.0	111.0	1	1	90.0	1.37	146.0
SODJ100A	RZ	111.0	123.0	1	1	100.0	1.23	162.0
SODJ110A	SE	122.0	135.0	1	1	110.0	1.13	177.0
SODJ120A	SG	133.0	147.0	1	1	120.0	1.04	193.0
SODJ130A	SK	144.0	159.0	1	1	130.0	0.96	209.0
SODJ150A	SM	167.0	185.0	1	1	150.0	0.82	243.0
SODJ160A	SP	178.0	197.0	1	1	160.0	0.77	259.0
SODJ170A	SR	189.0	209.0	1	1	170.0	0.72	275.0
SODJ180A	TT	200.0	220.0	1	1	180.0	0.68	292.0

Note:

① Surge waveform: 10/1000 μs

V_{RWM} : Stand-off voltage -- Maximum voltage that can be applied

V_{BR} : Breakdown voltage

V_C : Clamping voltage -- Peak voltage measured across the suppressor at a specified I_{PP}

I_R : Reverse leakage current



5. Rating And Characteristic Curves

Fig.1 Derating Curve

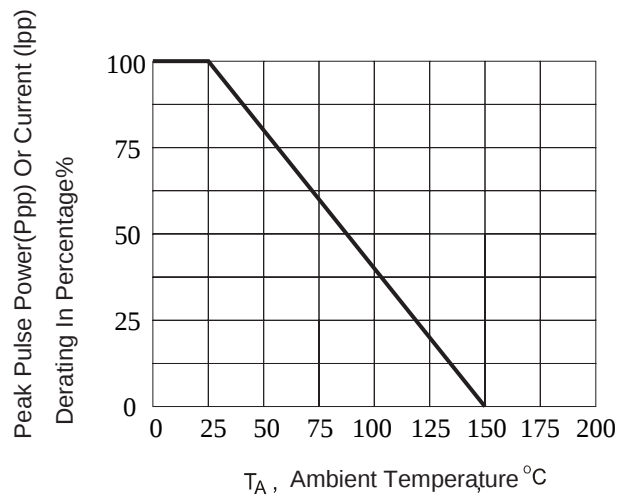


Fig. 2 Peak Pulse Power Rating Curve

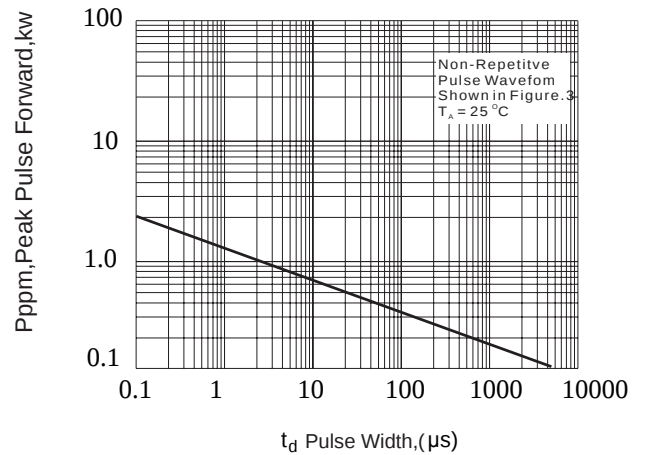


Fig.3 Clamping Power Pulse Waveform

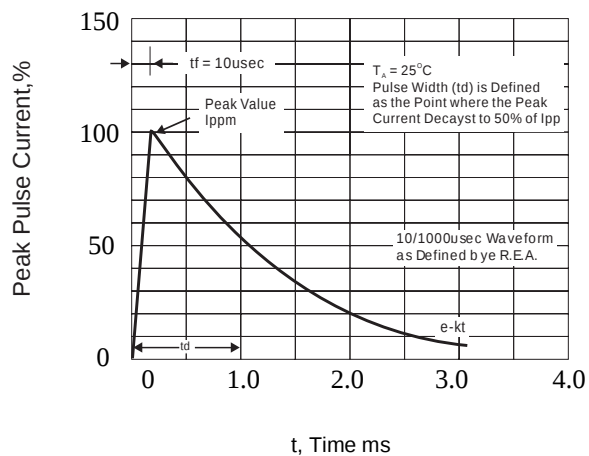
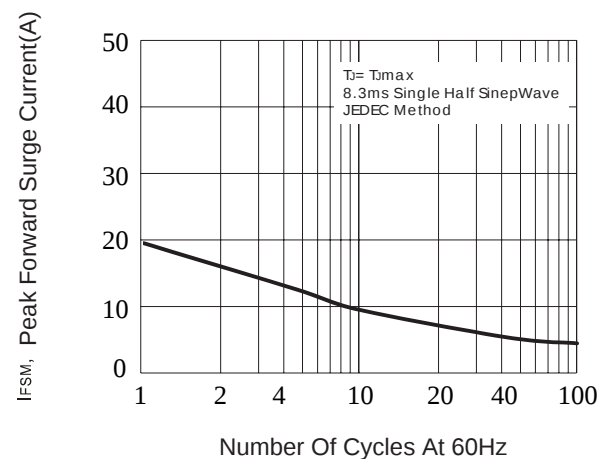
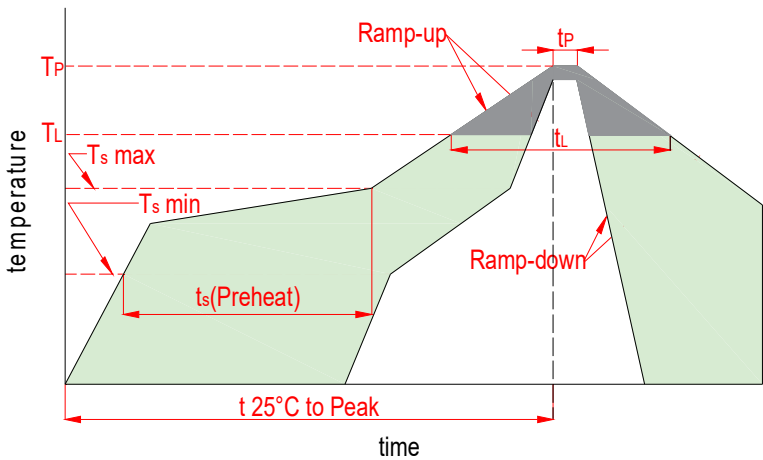


Fig.4 Maximum Non-repetitive Forward Surge Current Unidirectional only



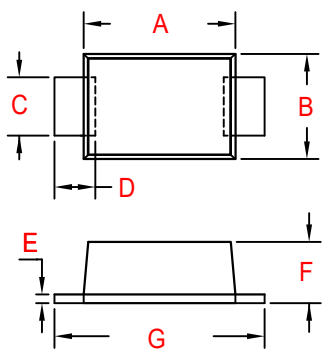


6. Soldering Parameters



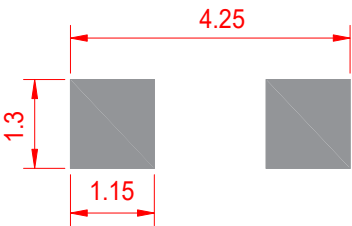
Reflow Condition		Lead-free
Pre Heat	Temp. min(Ts(min))	150℃
	Temp. max(Ts(min))	200℃
	Time(min to max)(ts)	60~120s
Aver. ramp up rate(Liquidus Temp.)(TL)to peak		3℃/s max
Ts(max) to TL-Ramp-up Rate		3℃/s max
Reflow	Temp.(TL)(Liquidus)	217℃
	Temp.(tl)(Liquidus)	60~150s
Peak Temp.(Tp)		260 ^{+0/-5} ℃
Time within actual peak Temp.(tp)		30s max
Ramp-down Rate		6℃/s max
Time 25℃ to peak Tempe.(Tp)		8 minutes max
Do not exceed		260℃

7. Dimensions

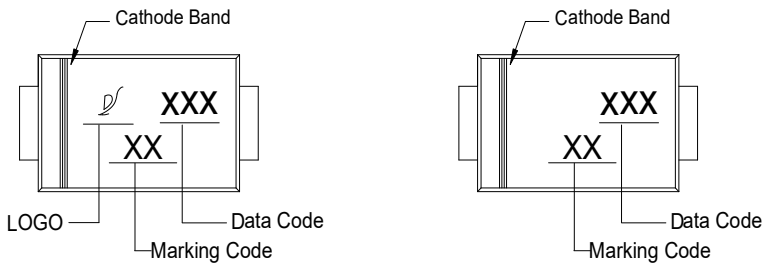


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.095	0.118	2.4	3.0
B	0.063	0.079	1.6	2.0
C	0.032	0.047	0.8	1.2
D	0.014	0.037	0.35	0.95
E	0.004	0.008	0.1	0.2
F	0.035	0.043	0.9	1.1
G	0.134	0.157	3.4	4.0

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Tape Width (mm)	Reel Size		Quantity(pcs)
		mm	inch	
SOD-123FL	8	178	7	3000



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