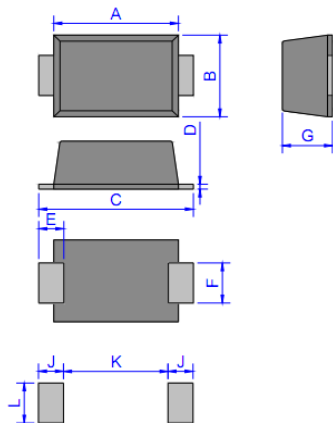


SOD123FL


Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	3.00	0.102	0.118
B	1.60	2.00	0.063	0.079
C	3.45	3.95	0.136	0.156
D	0.10	0.25	0.004	0.01
E	0.3	0.9	0.012	0.035
F	0.80	1.20	0.031	0.047
G	0.95	1.35	0.037	0.053
J	1.30		0.051	
K		1.70		0.067
L	1.30		0.051	

Unit: inch (mm)

Features

- Glass passivated chip
- 200 W peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard
- IEC61000-4-2 (ESD) $\pm 30\text{KV}$ (air), $\pm 30\text{KV}$ (contact)

Mechanical Data

- Case: SOD123FL Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

Maximum Ratings & Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform ⁽¹⁾	P_{PP}	200	W
Peak pulse current with a 10/1000 us waveform ⁽¹⁾	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75^\circ\text{C}$	P_D	1.0	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only ⁽²⁾	I_{FSM}	30	A
Maximum instantaneous forward voltage at 10 A for unidirectional only ⁽³⁾	V_F	3.5/6.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C

Note:

1)Non-repetitive current pulse per Fig.5 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 ;

3) $V_F < 3.5\text{V}$ for devices of $V_{BR} < 200\text{V}$ and $V_F < 6.5\text{V}$ for devices of $V_{BR} > 201\text{V}$.



Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage $V_{BR} @ I_T$		Test Current	Max. Clamping Voltage @ I_{PP}	Max. Peak Pulse Current	Max. Reverse Leakage @ V_{RWM}
UNI-POLAR	BI-POLAR	UNI	BI	$V_{RWM}(V)$	Min.(V)	Max.(V)	$I_T(mA)$	$V_{C MAX.}(V)$	$I_{PP}(A)$	$I_R(\mu A)$
SMF3.3AX	SMF3.3CAX	HZ	GZ	3.3	4.22	6.58	10	8.0	25.0	600
SMF5.0AX	SMF5.0CAX	KE	AE	5.0	6.40	7.00	10	9.2	21.7	400
SMF6.0AX	SMF6.0CAX	KG	AG	6.0	6.67	7.37	10	10.3	19.4	400
SMF6.5AX	SMF6.5CAX	KK	AK	6.5	7.22	7.98	10	11.2	17.8	250
SMF7.0AX	SMF7.0CAX	KM	AM	7.0	7.78	8.60	10	12.0	16.6	100
SMF7.5AX	SMF7.5CAX	KP	AP	7.5	8.33	9.21	1	12.9	15.5	50
SMF8.0AX	SMF8.0CAX	KR	AR	8.0	8.89	9.83	1	13.6	14.7	25
SMF8.5AX	SMF8.5CAX	KT	AT	8.5	9.44	10.40	1	14.4	13.9	10
SMF9.0AX	SMF9.0CAX	KV	AV	9.0	10.00	11.10	1	15.4	13.0	5
SMF10AX	SMF10CAX	KX	AX	10.0	11.10	12.30	1	17.0	11.7	5
SMF11AX	SMF11CAX	KZ	AZ	11.0	12.20	13.50	1	18.2	11.0	1
SMF12AX	SMF12CAX	LE	BE	12.0	13.30	14.70	1	19.9	10.0	1
SMF13AX	SMF13CAX	LG	BG	13.0	14.40	15.90	1	21.5	9.3	1
SMF14AX	SMF14CAX	LK	BK	14.0	15.60	17.20	1	23.2	8.6	1
SMF15AX	SMF15CAX	LM	BM	15.0	16.70	18.50	1	24.4	8.2	1
SMF16AX	SMF16CAX	LP	BP	16.0	17.80	19.70	1	26.0	7.7	1
SMF17AX	SMF17CAX	LR	BR	17.0	18.90	20.90	1	27.6	7.2	1
SMF18AX	SMF18CAX	LT	BT	18.0	20.00	22.10	1	29.2	6.8	1
SMF20AX	SMF20CAX	LV	BV	20.0	22.20	24.50	1	32.4	6.1	1
SMF22AX	SMF22CAX	LX	BX	22.0	24.40	26.90	1	35.5	5.6	1
SMF24AX	SMF24CAX	LZ	BZ	24.0	26.70	29.50	1	38.9	5.1	1
SMF26AX	SMF26CAX	ME	CE	26.0	28.90	31.90	1	42.1	4.7	1
SMF28AX	SMF28CAX	MG	CG	28.0	31.10	34.40	1	45.4	4.4	1
SMF30AX	SMF30CAX	MK	CK	30.0	33.50	36.80	1	48.4	4.1	1
SMF33AX	SMF33CAX	MM	CM	33.0	36.70	40.60	1	53.3	3.7	1
SMF36AX	SMF36CAX	MP	CP	36.0	40.00	44.20	1	58.1	3.4	1
SMF40AX	SMF40CAX	MR	CR	40.0	44.40	49.10	1	64.5	3.1	1
SMF43AX	SMF43CAX	MT	CT	43.0	47.80	52.80	1	69.4	2.9	1
SMF45AX	SMF45CAX	MV	CV	45.0	50.00	55.30	1	72.7	2.7	1
SMF48AX	SMF48CAX	MX	CX	48.0	53.30	58.90	1	77.4	2.6	1
SMF51AX	SMF51CAX	MZ	CZ	51.0	56.70	62.70	1	82.4	2.4	1
SMF54AX	SMF54CAX	NE	DE	54.0	60.00	66.30	1	87.1	2.3	1
SMF58AX	SMF58CAX	NG	DG	58.0	64.40	71.20	1	93.6	2.1	1
SMF60AX	SMF60CAX	NK	DK	60.0	66.70	73.70	1	96.8	2.0	1
SMF64AX	SMF64CAX	NM	DM	64.0	71.10	78.60	1	103.0	1.9	1
SMF70AX	SMF70CAX	NP	DP	70.0	77.80	86.00	1	113.0	1.7	1
SMF75AX	SMF75CAX	NR	DR	75.0	83.30	92.10	1	121.0	1.6	1
SMF78AX	SMF78CAX	NT	DT	78.0	86.70	95.80	1	126.0	1.5	1
SMF85AX	SMF85CAX	NV	DV	85.0	94.4	104.0	1	137.0	1.4	1
SMF90AX	SMF90CAX	NX	DX	90.0	100.0	111.0	1	146.0	1.3	1
SMF100AX	SMF100CAX	NZ	DZ	100.0	111.0	123.0	1	162.0	1.2	1
SMF110AX	SMF110CAX	PE	EE	110.0	122.0	135.0	1	177.0	1.1	1
SMF120AX	SMF120CAX	PG	EG	120.0	133.0	147.0	1	193.0	1.0	1
SMF130AX	SMF130CAX	PK	EK	130.0	144.0	159.0	1	209.0	0.9	1
SMF150AX	SMF150CAX	PM	EM	150.0	167.0	185.0	1	243.0	0.8	1
SMF160AX	SMF160CAX	PP	EP	160.0	178.0	197.0	1	259.0	0.7	1
SMF170AX	SMF170CAX	PR	ER	170.0	189.0	209.0	1	275.0	0.7	1
SMF180AX	SMF180CAX	PT	ET	180.0	201.0	222.0	1	292.0	0.7	1
SMF190AX	SMF190CAX	PV	EV	190.0	209.0	243.0	1	308.0	0.6	1
SMF200AX	SMF200CAX	PX	EX	200.0	224.0	247.0	1	324.0	0.6	1
SMF210AX	SMF210CAX	PZ	EZ	210.0	231.0	268.0	1	340.0	0.6	1
SMF220AX	SMF220CAX	QE	FE	220.0	246.0	272.0	1	356.0	0.5	1
SMF250AX		QG		250.0	279.0	309.0	1	405.0	0.5	1
SMF300AX		QK		300.0	335.0	371.0	1	486.0	0.4	1
SMF350AX		QM		350.0	391.0	432.0	1	567.0	0.3	1
SMF400AX		QP		400.0	447.0	494.0	1	648.0	0.3	1
SMF440AX		QR		440.0	492.0	543.0	1	713.0	0.3	1

Ratings and Characteristics Curves (TA=25°C unless otherwise noted)

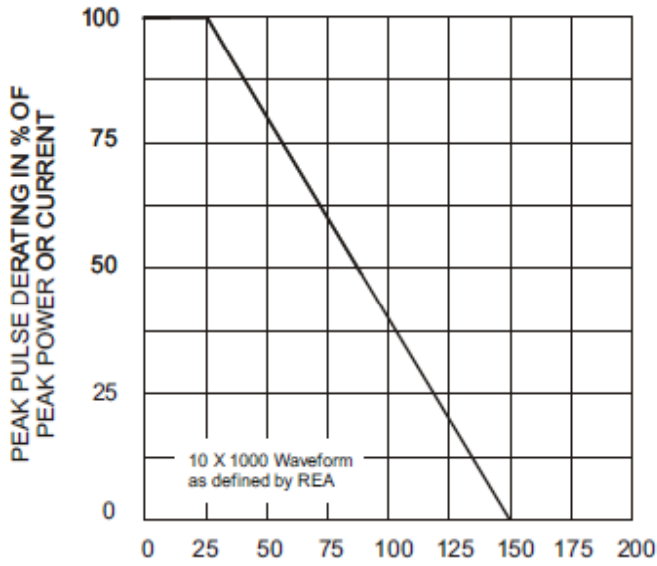


Fig. 1 - Pulse Derating Curve

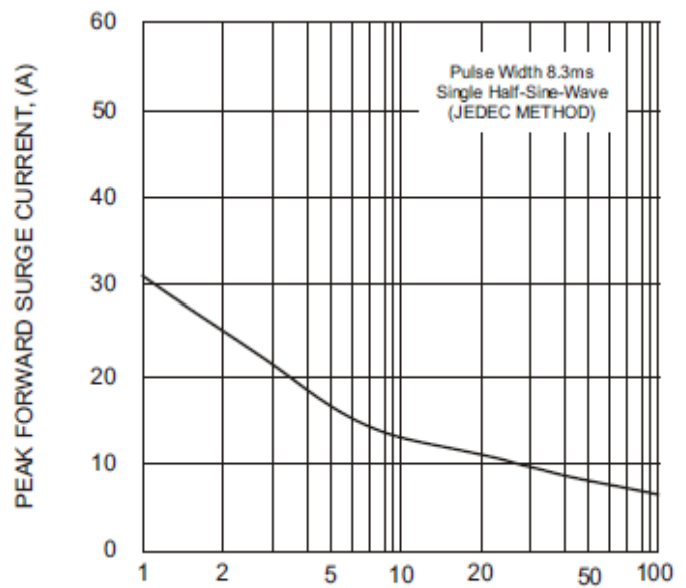


Fig. 2 - Maximum Non-Repetitive Surge Current

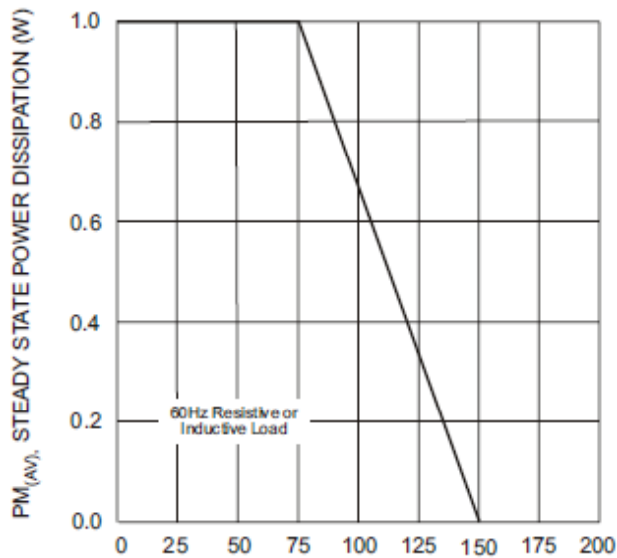


Fig. 3 - Steady State Power Derating Curve

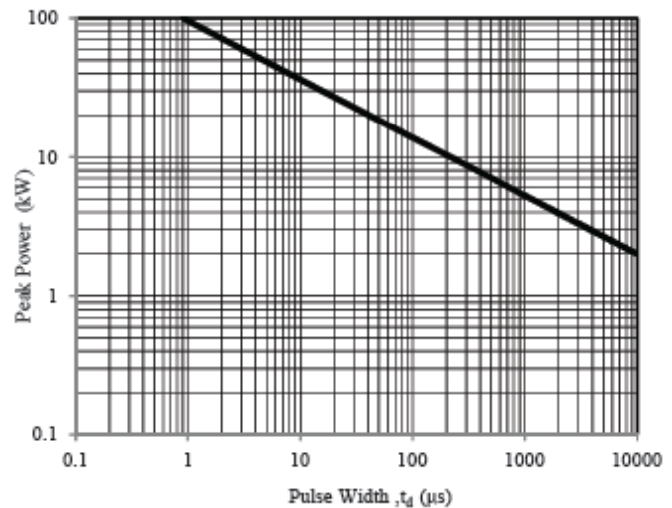


Fig. 4 - Peak Pulse Power Rating Curve

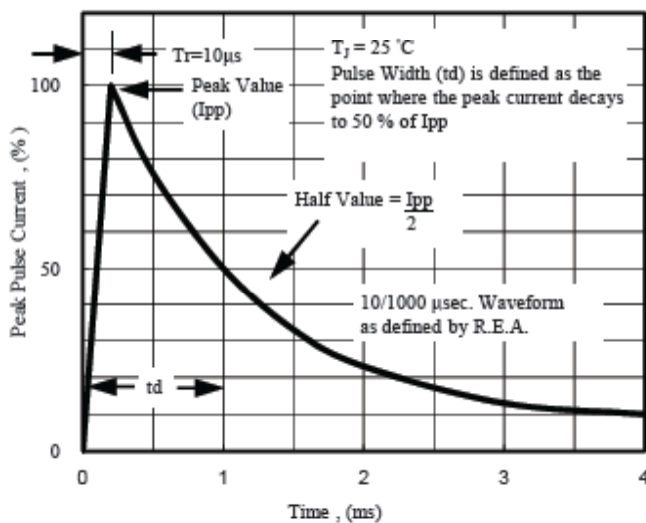


Fig. 5 - Pulse Waveform

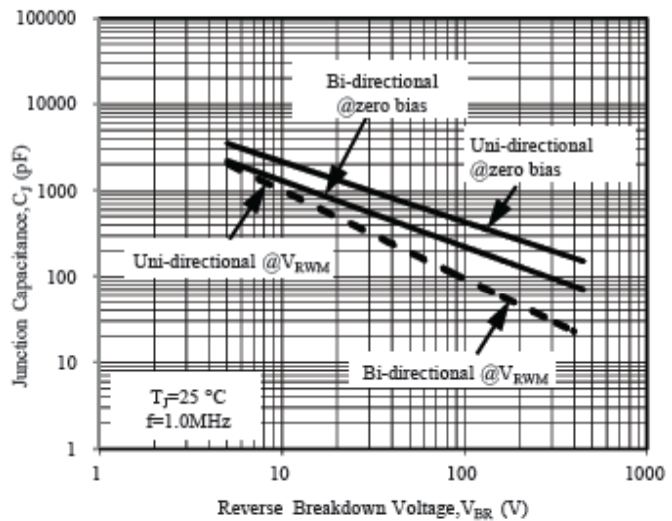


Fig. 6 - Typical Junction Capacitance