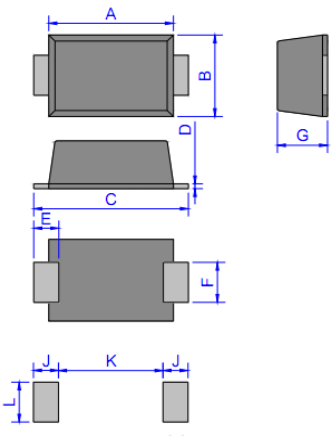
SOD-123FL



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
- 400 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

Mechanical Data

- Case: SOD-123FL 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℃ ambient temperature unless otherwise specified.

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform(1)	P_{PP}	400	W
Peak pulse current wih a 10/1000 us waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at TL = 75 °C	P_D	3.0	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only(2)	I_{FSM}	40	A
Maximum instantaneous forward voltage at 15 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	℃

Note:

1)Non-repetitive current pulse per Fig.5 and derated above TA= 25 °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)VF<3.5V for devices of VBR<200V and VF<6.5V for devices of VBR>201V。

Ordering Information

Device	Qty per Reel	Reel Size
S4MF xx(CX)AX	3000	7 Inch

"xx" =Working Peak Reverse Voltage

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(uA)
S4MF5.0AX	S4MF5.0CAX	AE	WE	5.0	6.40	7.00	10	9.2	43.5	800
S4MF6.0AX	S4MF6.0CAX	AG	WG	6.0	6.67	7.37	10	10.3	38.8	800
S4MF6.5AX	S4MF6.5CAX	AK	WK	6.5	7.22	7.98	10	11.2	35.7	500
S4MF7.0AX	S4MF7.0CAX	AM	WM	7.0	7.78	8.60	10	12.0	33.3	200
S4MF7.5AX	S4MF7.5CAX	AP	WP	7.5	8.33	9.21	1	12.9	31.0	100
S4MF8.0AX	S4MF8.0CAX	AR	WR	8.0	8.89	9.83	1	13.6	29.4	50
S4MF8.5AX	S4MF8.5CAX	AT	WT	8.5	9.44	10.40	1	14.4	27.8	20
S4MF9.0AX	S4MF9.0CAX	AV	WV	9.0	10.00	11.10	1	15.4	26.0	10
S4MF10AX	S4MF10CAX	AX	WX	10.0	11.10	12.30	1	17.0	23.5	5
S4MF10AX	S4MF11CAX	AZ	WZ	11.0	12.20	13.50	1	18.2	22.0	5
S4MF10AX	S4MF12CAX	BE	XE	12.0	13.30	14.70	1	19.9	20.1	5
S4MF10AX	S4MF13CAX	BG	XG	13.0	14.40	15.90	1	21.5	18.6	5
S4MF14AX	S4MF14CAX	BK	XK	14.0	15.60	17.20	1	23.2	17.2	5
S4MF15AX	S4MF15CAX	BM	XM	15.0	16.70	18.50	1	24.4	16.4	5
S4MF16AX	S4MF16CAX	BP	XP	16.0	17.80	19.70	1	26.0	15.4	5
S4MF17AX	S4MF17CAX	BR	XR	17.0	18.90	20.90	1	27.6	14.5	5
S4MF18AX	S4MF18CAX	BT	XT	18.0	20.00	22.10	1	29.2	13.7	5
S4MF20AX	S4MF20CAX	BV	XV	20.0	22.20	24.50	1	32.4	12.3	5
S4MF20AX	S4MF22CAX	BX	XX	22.0	24.40	26.90	1	35.5	11.3	5
S4MF24AX	S4MF24CAX	BZ	XZ	24.0	26.70	29.50	1	38.9	10.3	5
S4MF26AX	S4MF26CAX	CE	YE	26.0	28.90	31.90	1	42.1	9.5	5
S4MF28AX	S4MF28CAX	CG	YG	28.0	31.10	34.40	1	45.4	8.8	5
S4MF30AX	S4MF30CAX	CK	YK	30.0	33.50	36.80	1	48.4	8.3	5
S4MF30AX	S4MF33CAX	CM	YM	33.0	36.70	40.60	1	53.3	7.5	5
S4MF36AX	S4MF36CAX	CP	YP	36.0	40.00	44.20	1	58.1	6.9	5
S4MF40AX	S4MF40CAX	CR	YR	40.0	44.40	49.10	1	64.5	6.2	5
S4MF40AX	S4MF43CAX	CT	YT	43.0	47.80	52.80	1	69.4	5.8	5
S4MF45AX	S4MF45CAX	CV	YV	45.0	50.00	55.30	1	72.7	5.5	5
S4MF48AX	S4MF48CAX	CX	YX	48.0	53.30	58.90	1	77.4	5.2	5
S4MF50AX	S4MF51CAX	CZ	YZ	51.0	56.70	62.70	1	82.4	4.9	5
S4MF54AX	S4MF54CAX	RE	ZE	54.0	60.00	66.30	1	87.1	4.6	5
S4MF58AX	S4MF58CAX	RG	ZG	58.0	64.40	71.20	1	93.6	4.3	5
S4MF60AX	S4MF60CAX	RK	ZK	60.0	66.70	73.70	1	96.8	4.1	5
S4MF64AX	S4MF64CAX	RM	ZM	64.0	71.10	78.60	1	103.0	3.9	5
S4MF70AX	S4MF70CAX	RP	ZP	70.0	77.80	86.00	1	113.0	3.5	5
S4MF75AX	S4MF75CAX	RR	ZR	75.0	83.30	92.10	1	121.0	3.3	5
S4MF78AX	S4MF78CAX	RT	ZT	78.0	86.70	95.80	1	126.0	3.2	5
S4MF85AX	S4MF85CAX	RV	ZV	85.0	94.4	104.0	1	137.0	2.9	5
S4MF90AX	S4MF90CAX	RX	ZX	90.0	100.0	111.0	1	146.0	2.7	5
S4MF100AX	S4MF100CAX	RZ	ZZ	100.0	111.0	123.0	1	162.0	2.5	5
S4MF110AX	S4MF110CAX	SE	VE	110.0	122.0	135.0	1	177.0	2.3	5
S4MF120AX	S4MF120CAX	SG	VG	120.0	133.0	147.0	1	193.0	2.1	5
S4MF130AX	S4MF130CAX	SK	VK	130.0	144.0	159.0	1	209.0	1.9	5
S4MF150AX	S4MF150CAX	SM	VM	150.0	167.0	185.0	1	243.0	1.6	5
S4MF160AX	S4MF160CAX	SP	VP	160.0	178.0	197.0	1	259.0	1.5	5
S4MF170AX	S4MF170CAX	SR	VR	170.0	189.0	209.0	1	275.0	1.5	5
S4MF180AX		ST		180.0	201.0	222.0	1	292.0	1.4	5
S4MF190AX		SU		190.0	209.0	243.0	1	308.0	1.3	5
S4MF200AX		SV		200.0	224.0	247.0	1	324.0	1.2	5
S4MF210AX		SW		210.0	231.0	268.0	1	340.0	1.2	5
S4MF220AX		GX		220.0	246.0	272.0	1	356.0	1.1	5

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

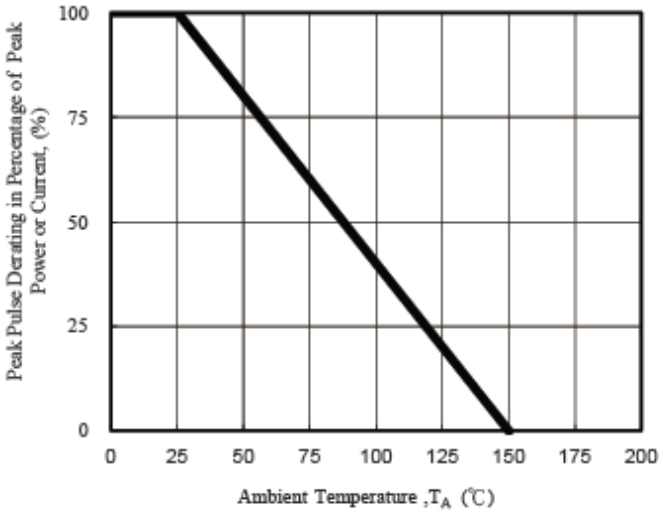


Fig. 1 - Pulse Derating Curve

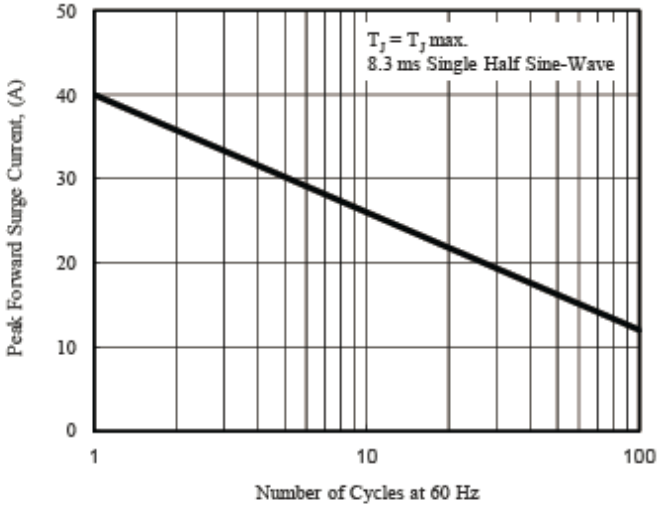


Fig. 2 - Maximum Non-Repetitive Surge Current

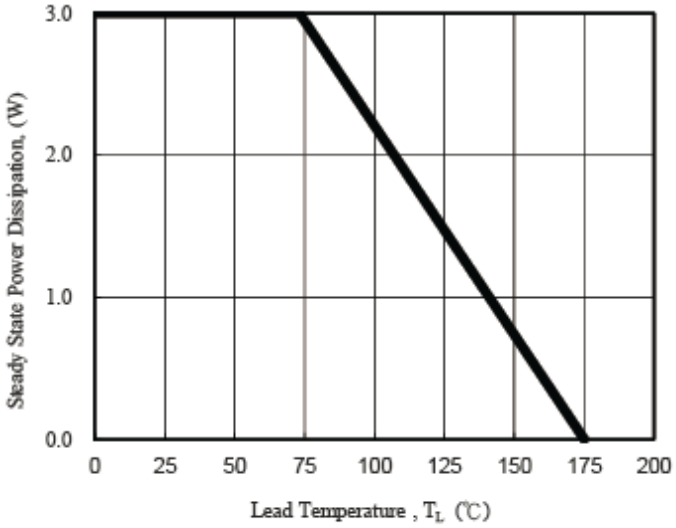


Fig. 3 - Steady State Power Derating Curve

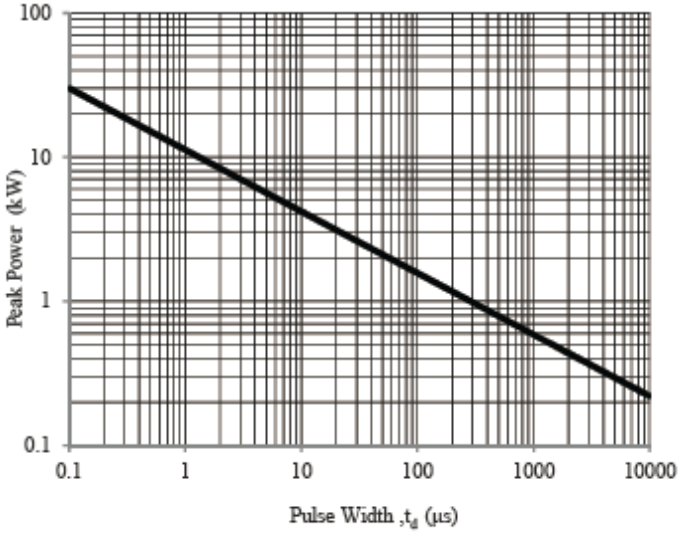


Fig. 4 - Peak Pulse Power Rating Curve

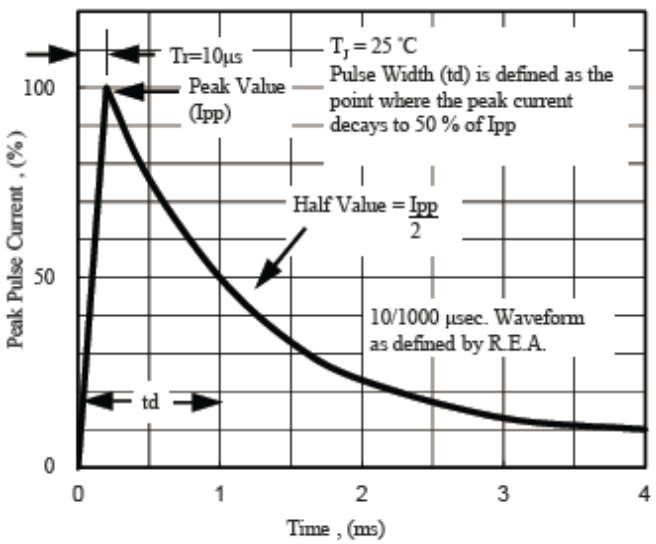


Fig. 5 - Pulse Waveform

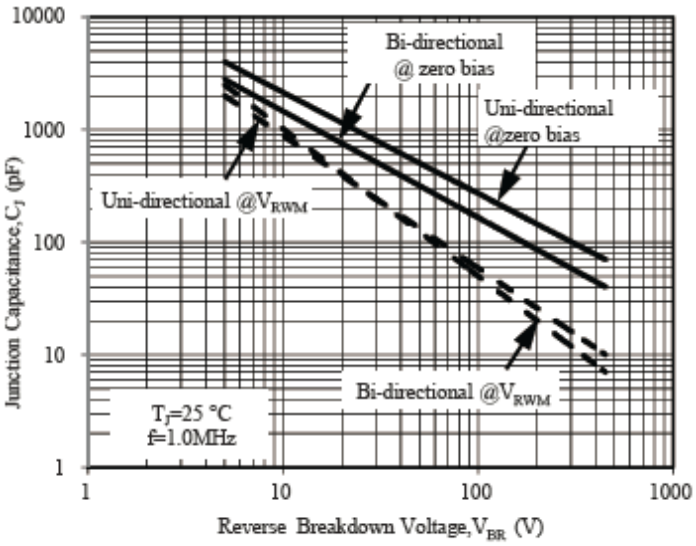
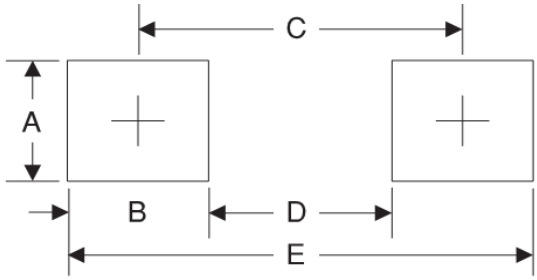


Fig. 6 - Typical Junction Capacitance

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.048
B	1.15	0.045
C	3.10	0.122
D	1.95	0.077
E	4.25	0.167