

FEATURES AND BENEFITS

Product Summary

P _{PP}	400W	@25 °C
V _{RWM}	5.0~220V	@25 °C

- Glass passivated chip
- 400W peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- RoHS Compliant / Green EMC UL Flammability Classification Rating 94V-0
- Matte Tin (Sn) Lead finish Solderable per MIL-STD-202, Method 208
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 0.019 grams (Approximate)

SOD-123FL



Uni-directional



Bi-directional



Maximum Ratings (TA = 25 °C unless otherwise noted)

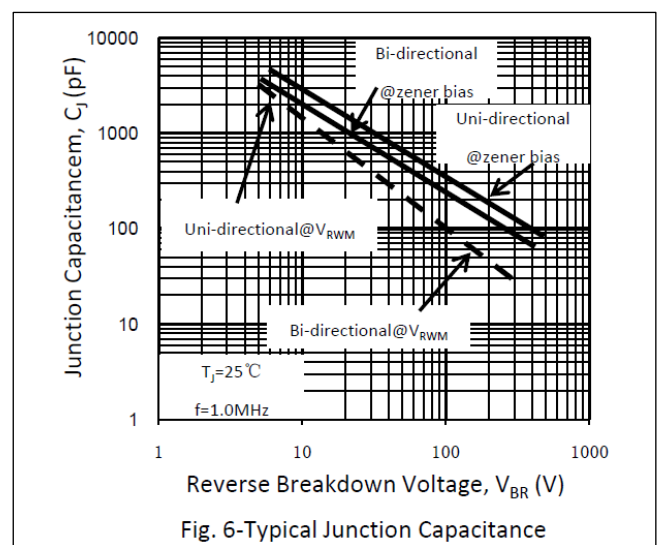
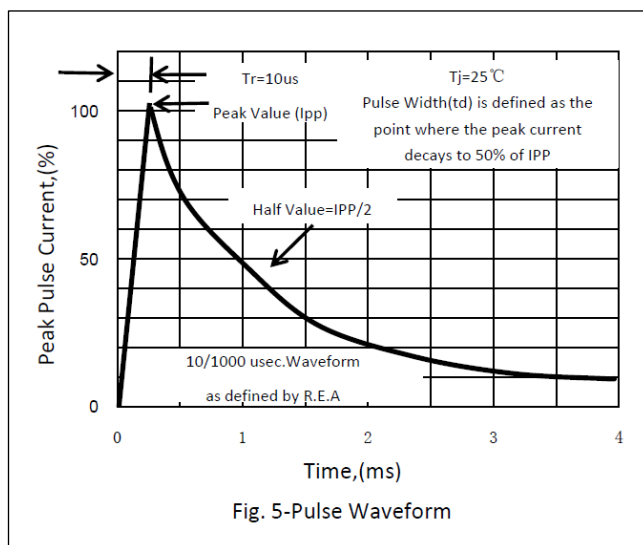
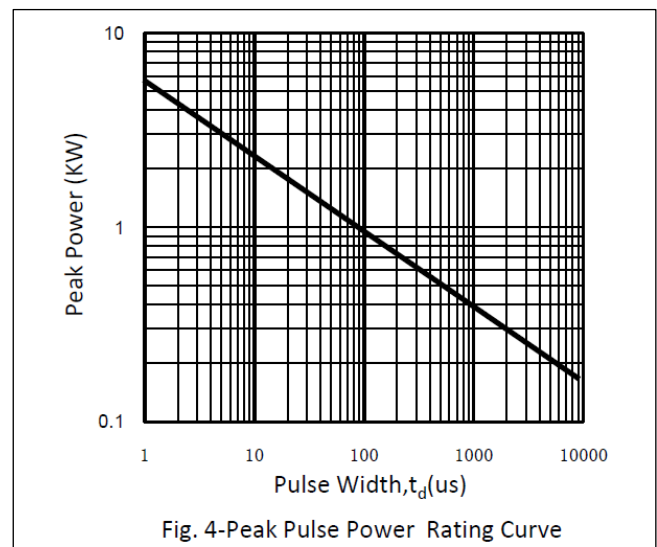
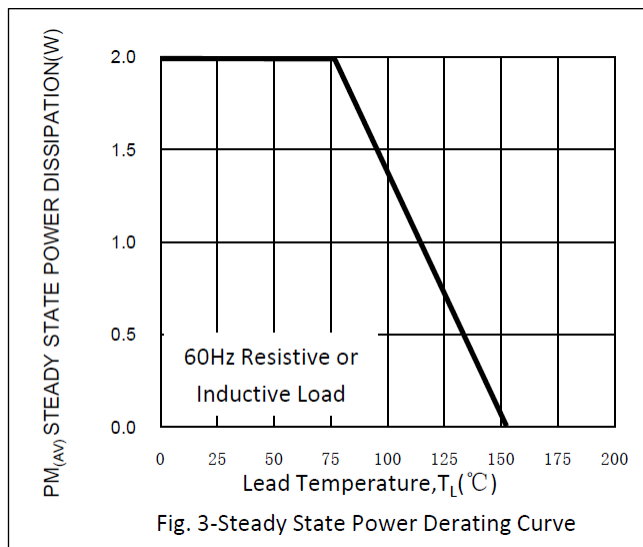
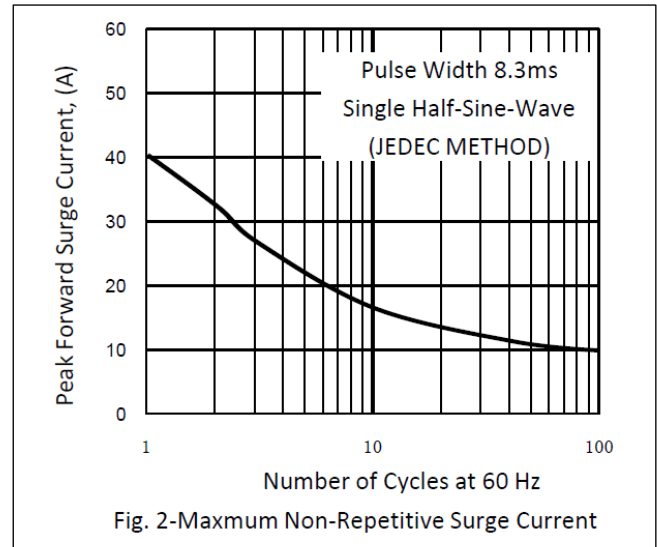
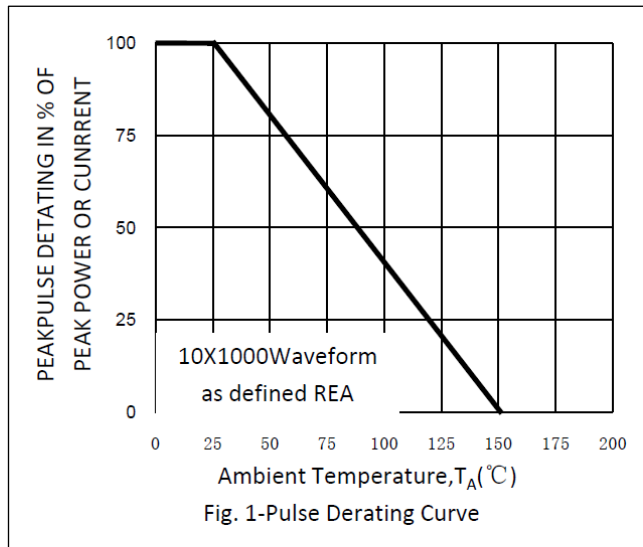
PARAMETER	SYMBOL	VALUE	UNIT
Peak power dissipation with a 10/1000 us waveform ⁽¹⁾	P _{PP}	400	W
Power dissipation on infinite heatsink at T _L = 75 °C	P _D	2.0	W
Peak forward surge current, 8.3ms single half sinewave unidirectional only ⁽²⁾	I _{FSM}	40	A
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 to +150	°C

Note:

- 1) Non-repetitive current pulse per Fig.5 and derated above T_A= 25 °C per Fig.1
- 2) Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

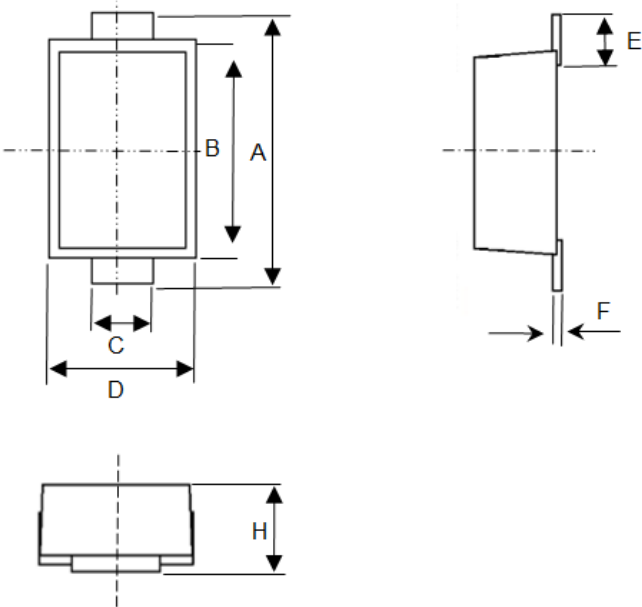
Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Max. Clamping Voltage @ I_{PP}	Max. Peak Pulse Current	Max. Reverse Leakage @ V_{RWM}
UNI-POLAR	BI-POLAR	UNI	BI	$V_{RWM}(V)$	Min.(V)	Max.(V)	$I_T(mA)$	V_C MAX.(V)	$I_{PP}(A)$	$I_R(\mu A)$
S4MF5.0A	S4MF5.0CA	AE	WE	5.0	6.40	7.00	10	9.2	43.50	400
S4MF6.0A	S4MF6.0CA	AG	WG	6.0	6.67	7.37	10	10.3	38.80	400
S4MF6.5A	S4MF6.5CA	AK	WK	6.5	7.22	7.98	10	11.2	35.70	250
S4MF7.0A	S4MF7.0CA	AM	WM	7.0	7.78	8.60	10	12.0	33.30	100
S4MF7.5A	S4MF7.5CA	AP	WP	7.5	8.33	9.21	1	12.9	31.00	50
S4MF8.0A	S4MF8.0CA	AR	WR	8.0	8.89	9.83	1	13.6	29.40	25
S4MF8.5A	S4MF8.5CA	AT	WT	8.5	9.44	10.40	1	14.4	27.80	10
S4MF9.0A	S4MF9.0CA	AV	WV	9.0	10.00	11.10	1	15.4	26.00	2.5
S4MF10A	S4MF10CA	AX	WX	10.0	11.10	12.30	1	17.0	23.50	2.5
S4MF11A	S4MF11CA	AZ	WZ	11.0	12.20	13.50	1	18.2	22.00	2.5
S4MF12A	S4MF12CA	BE	XE	12.0	13.30	14.70	1	19.9	20.10	2.5
S4MF13A	S4MF13CA	BG	XG	13.0	14.40	15.90	1	21.5	18.60	1
S4MF14A	S4MF14CA	BK	XK	14.0	15.60	17.20	1	23.2	17.20	1
S4MF15A	S4MF15CA	BM	XM	15.0	16.70	18.50	1	24.4	16.40	1
S4MF16A	S4MF16CA	BP	XP	16.0	17.80	19.70	1	26.0	15.40	1
S4MF17A	S4MF17CA	BR	XR	17.0	18.90	20.90	1	27.6	14.50	1
S4MF18A	S4MF18CA	BT	XT	18.0	20.00	22.10	1	29.2	13.70	1
S4MF20A	S4MF20CA	BV	XV	20.0	22.20	24.50	1	32.4	12.30	1
S4MF22A	S4MF22CA	BX	XX	22.0	24.40	26.90	1	35.5	11.30	1
S4MF24A	S4MF24CA	BZ	XZ	24.0	26.70	29.50	1	38.9	10.30	1
S4MF26A	S4MF26CA	CE	YE	26.0	28.90	31.90	1	42.1	9.50	1
S4MF28A	S4MF28CA	CG	YG	28.0	31.10	34.40	1	45.4	8.80	1
S4MF30A	S4MF30CA	CK	YK	30.0	33.50	36.80	1	48.4	8.30	1
S4MF33A	S4MF33CA	CM	YM	33.0	36.70	40.60	1	53.3	7.50	1
S4MF36A	S4MF36CA	CP	YP	36.0	40.00	44.20	1	58.1	6.90	1
S4MF40A	S4MF40CA	CR	YR	40.0	44.40	49.10	1	64.5	6.20	1
S4MF43A	S4MF43CA	CT	YT	43.0	47.80	52.80	1	69.4	5.80	1
S4MF45A	S4MF45CA	CV	YV	45.0	50.00	55.30	1	72.7	5.50	1
S4MF48A	S4MF48CA	CX	YX	48.0	53.30	58.90	1	77.4	5.20	1
S4MF51A	S4MF51CA	CZ	YZ	51.0	56.70	62.70	1	82.4	4.90	1
S4MF54A	S4MF54CA	RE	ZE	54.0	60.00	66.30	1	87.1	4.60	1
S4MF58A	S4MF58CA	RG	ZG	58.0	64.40	71.20	1	93.6	4.30	1
S4MF60A	S4MF60CA	RK	ZK	60.0	66.70	73.70	1	96.8	4.10	1
S4MF64A	S4MF64CA	RM	ZM	64.0	71.10	78.60	1	103.0	3.90	1
S4MF70A	S4MF70CA	RP	ZP	70.0	77.80	86.00	1	113.0	3.50	1
S4MF75A	S4MF75CA	RR	ZR	75.0	83.30	92.10	1	121.0	3.30	1
S4MF78A	S4MF78CA	RT	ZT	78.0	86.70	95.80	1	126.0	3.20	1
S4MF85A	S4MF85CA	RV	ZV	85.0	94.4	104.0	1	137.0	2.90	1
S4MF90A	S4MF90CA	RX	ZX	90.0	100.0	111.0	1	146.0	2.70	1
S4MF100A	S4MF100CA	RZ	ZZ	100.0	111.0	123.0	1	162.0	2.50	1
S4MF110A	S4MF110CA	SE	VE	110.0	122.0	135.0	1	177.0	2.30	1
S4MF120A	S4MF120CA	SG	VG	120.0	133.0	147.0	1	193.0	2.10	1
S4MF130A	S4MF130CA	SK	VK	130.0	144.0	159.0	1	209.0	1.90	1
S4MF150A	S4MF150CA	SM	VM	150.0	167.0	185.0	1	243.0	1.60	1
S4MF160A	S4MF160CA	SP	VP	160.0	178.0	197.0	1	259.0	1.50	1
S4MF170A	S4MF170CA	SR	VR	170.0	189.0	209.0	1	275.0	1.50	1
S4MF180A	-	ST	-	180.0	201.0	222.0	1	292.0	1.40	1
S4MF190A	-	SU	-	190.0	209.0	243.0	1	308.0	1.30	1
S4MF200A	-	SV	-	200.0	224.0	247.0	1	324.0	1.20	1
S4MF210A	-	SW	-	210.0	231.0	268.0	1	340.0	1.20	1
S4MF220A	-	GX	-	220.0	246.0	272.0	1	356.0	1.10	1

RATING AND CHARACTERISTICS CURVES



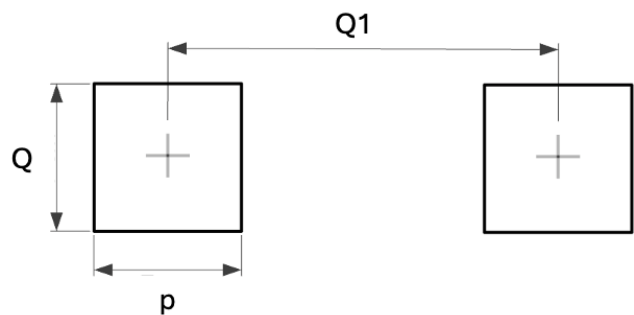
PACKAGE OUTLINE DIMENSIONS

SOD-123FL



Symbol	MIN	MAX
A	3.45	4.00
B	2.50	3.00
C	0.80	1.20
D	1.60	2.00
E	0.30	1.00
F	0.05	0.30
H	0.90	1.35
Unit: mm		

SUGGESTED PAD LAYOUT

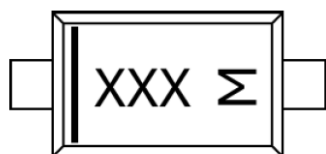


Symbol	Type
Q1	3.2
Q	1.20
p	1.20
Unit: mm	

DEVICE MARKING CODE AND ORDERING INFORMATION

DEVICE	Marking	Quantity	Packing
SM4Fxx(C)A	Refer to Device Marking Code	3000/7"Reel	Tape & Reel

Uni-directional



Cathode Band

XXX: Product Marking Code

Σ : Date Code (Rotate 90° counterclockwise)

Bi-directional



Cathode Band

XXX: Product Marking Code

Σ : Date Code (Rotate 90° counterclockwise)

Odd Year	Even Year
1	E
2	F
3	H
4	J
5	K
6	L
7	N
8	P
9	U
T	X
V	Y
C	Z

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