

SINLOON®

瞬態電壓抑制二極體 (TVS)

Voltage Range: 5.0V ~ 190V

SMF Series

200W Surface Mount Transient Voltage Suppressor

FEATURE:

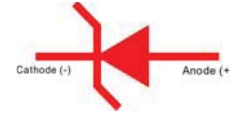
- ◆ Glass Passivated Die Construction
- ◆ 200W peak pulse power dissipation
- ◆ 5.0V ~ 190V standoff voltage
- ◆ Uni-and Bidirectional versions available
- ◆ Excellent clamping capability
- ◆ Plastic Material - UL Recognition Flammability Classification 94V-O

Figure SOD-123FL



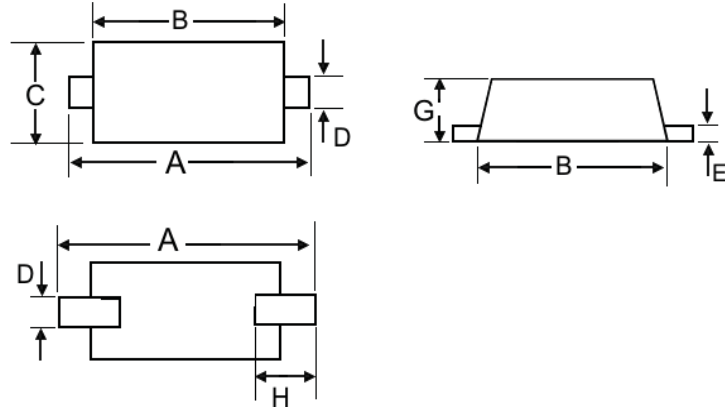
MECHANICAL CHARACTERISTICS:

- ◆ Case: SOD-123FL Molded Plastic
- ◆ Weight: 0.017 Grams (approx)
- ◆ Marking: Device Part Code
- ◆ Polarity: Cathode Band Except Bi-Directional
- ◆ Terminals: Plated leads solder able per MIL-STD-202, Method 208.
- ◆ Lead Free for Rohm / Lead free version and "LF" suffix to part number.



DIMENSION:

Dimension (mm) SOD-123FL		
Dim.	Min.	Max.
A	3.5	3.7
B	2.65	2.95
C	1.65	1.95
D	0.75	1.05
E	0.1	0.2
G	0.98	1.08
H	0.5	0.8



Maximum Ratings and Electrical Characteristic @T_A=25°C unless otherwise specified

Characteristic	Symbo	Value	Unit
Peak Pulse Power Dissipation on 10/1000µS Waveform (Note 1, 2,5) Figure-3.	P _{PPM}	200 Minimum	W
Peak Pulse Power Dissipation on 8/20µS Waveform (Note 2)	P _{PPM}	1000 Minimum	W
Peak Forward Surge Current (Note 3)	I _{FSM}	20	A
Peak Pulse Current on 10/1000µS Waveform (Note 1) Figure-4.	I _{PPM}	See Table-1	A
Steady State Power Dissipation (Note 2, 4)	P _{PM(AV)}	0.4	W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Note:

1. Non-repetitive current pulse per Figure-4 and derated above TA=25 °C per Figure-1.
2. Mounted on PC board with recommended minimum pad size.
3. 8.3ms single half sine-wave cycle = 4 pulses per minutes maximum.
4. Lead temperature at 75 °C.
5. Peak pulse power waveform is 10/1000µS.

TVS 瞬態電壓抑制器 特性:

- ◆ 高效能保護器件
- ◆ 吸收反向瞬態脈衝
- ◆ 瞬態功率大
- ◆ 漏電流低,擊穿電壓偏差小
- ◆ 電路異常下反應快



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□ Uni-Directional 200 Watt Surface Mount TVS

Uni-Directional Part No.	Device Marking Code	Reverse Stand-off Vol. $V_{RWM}(V)$	Breakdown Voltage $V_{BR(V)}$ Min. @IT	Breakdown Voltage $V_{BR(V)}$ Max. @IT	Test Current IT (mA)	Max. Clamping Voltage @ $I_{PP}(A)$	Peak Pulse Current $I_{PP}(A)$	Reverse Leakage @ $V_{RWM} I_R$ (uA)
SMF5.0A	FE	5.00	6.40	7.00	10	9.20	21.70	400
SMF6.0A	FG	6.00	6.67	7.37	10	10.30	19.40	400
SMF6.5A	FK	6.50	7.22	7.98	10	11.20	17.90	250
SMF7.0A	FM	7.00	7.78	8.60	10	12.00	16.70	100
SMF7.5A	FP	7.50	8.33	9.21	1.0	12.90	15.50	50
SMF8.0A	FR	8.00	8.89	9.83	1.0	13.60	14.70	25
SMF8.5A	FT	8.50	9.44	10.40	1.0	14.40	13.90	10
SMF9.0A	FV	9.00	10.00	11.10	1.0	15.40	13.00	5.0
SMF10A	FX	10.00	11.10	12.30	1.0	17.00	11.80	2.5
SMF11A	FZ	11.00	12.20	13.50	1.0	18.20	11.00	2.5
SMF12A	HE	12.00	13.30	14.70	1.0	19.90	10.10	2.5
SMF13A	HG	13.00	14.40	15.90	1.0	21.50	9.30	1.0
SMF14A	HK	14.00	15.60	17.20	1.0	23.20	8.62	1.0
SMF15A	HM	15.00	16.70	18.50	1.0	24.40	8.20	1.0
SMF16A	HP	16.00	17.80	19.70	1.0	26.00	7.69	1.0
SMF17A	HR	17.00	18.90	20.90	1.0	27.60	7.25	1.0
SMF18A	HT	18.00	20.00	22.10	1.0	29.20	6.85	1.0
SMF19A	HB	19.00	21.10	23.30	1.0	30.60	6.54	1.0
SMF20A	HV	20.00	22.20	24.50	1.0	32.40	6.17	1.0
SMF22A	HX	22.00	24.40	26.90	1.0	35.50	5.63	1.0
SMF24A	HX	24.00	26.70	29.50	1.0	38.90	5.14	1.0
SMF26A	JE	26.00	28.90	31.90	1.0	42.10	4.75	1.0
SMF28A	JG	28.00	31.10	34.40	1.0	45.40	4.41	1.0
SMF30A	JK	30.00	33.30	36.80	1.0	48.40	4.13	1.0
SMF33A	JM	33.00	36.70	40.60	1.0	53.30	3.75	1.0
SMF36A	JP	36.00	40.00	44.20	1.0	58.10	3.44	1.0
SMF40A	JR	40.00	44.40	49.10	1.0	64.50	3.10	1.0
SMF43A	JT	43.00	47.80	52.80	1.0	69.40	2.88	1.0
SMF45A	JV	45.00	50.00	55.30	1.0	72.70	2.75	1.0
SMF48A	JX	48.00	53.30	58.90	1.0	77.40	2.58	1.0
SMF51A	JZ	51.00	56.70	62.70	1.0	82.40	2.43	1.0
SMF54A	XE	54.00	60.00	66.30	1.0	87.10	2.30	1.0
SMF58A	XG	58.00	64.40	71.20	1.0	93.60	2.14	1.0
SMF60A	XK	60.00	66.70	73.70	1.0	96.80	2.07	1.0
SMF64A	XM	64.00	71.10	78.60	1.0	103.00	1.94	1.0
SMF70A	XP	70.00	77.80	86.00	1.0	113.00	1.77	1.0
SMF75A	XR	75.00	83.30	92.10	1.0	121.00	1.65	1.0
SMF78A	XT	78.00	86.70	95.80	1.0	126.00	1.59	1.0
SMF80A	XB	80.00	88.80	97.60	1.0	129.00	1.55	1.0
SMF85A	XV	85.00	94.40	104.00	1.0	137.00	1.46	1.0
SMF90A	XX	90.00	100.00	111.00	1.0	146.00	1.37	1.0
SMF100A	XZ	100.00	111.00	123.00	1.0	162.00	1.23	1.0
SMF110A	TE	110.00	122.00	135.00	1.0	177.00	1.13	1.0
SMF120A	TG	120.00	133.00	147.00	1.0	193.00	1.04	1.0
SMF130A	TK	130.00	144.00	159.00	1.0	209.00	0.96	1.0
SMF140A	TB	140.00	155.00	171.00	1.0	224.00	0.89	1.0
SMF150A	TM	150.00	167.00	185.00	1.0	243.00	0.82	1.0
SMF160A	TP	160.00	178.00	197.00	1.0	259.00	0.77	1.0
SMF170A	TR	170.00	189.00	209.00	1.0	275.00	0.73	1.0
SMF180A	TT	180.00	200.00	220.00	1.0	290.00	0.69	1.0
SMF190A	TV	190.00	211.00	232.00	1.0	290.00	0.69	1.0



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SMF5.0CA	KE	5.00	6.40	7.00	10	9.20	21.70	400
SMF6.0CA	KG	6.00	6.67	7.37	10	10.30	19.40	400
SMF6.5CA	KK	6.50	7.22	7.98	10	11.20	17.90	250
SMF7.0CA	KM	7.00	7.78	8.60	10	12.00	16.70	100
SMF7.5CA	KP	7.50	8.33	9.21	1	12.90	15.50	50
SMF8.0CA	KR	8.00	8.89	9.83	1	13.60	14.70	25
SMF8.5CA	KT	8.50	9.44	10.40	1	14.40	13.90	10
SMF9.0CA	KV	9.00	10.00	11.10	1	15.40	13.00	5.0
SMF10CA	KX	10.00	11.10	12.30	1	17.00	11.80	2.5
SMF11CA	KZ	11.00	12.20	13.50	1	18.20	11.00	2.5
SMF12CA	LE	12.00	13.30	14.70	1	19.90	10.10	2.5
SMF13CA	LG	13.00	14.40	15.90	1	21.50	9.30	1.0
SMF14CA	LK	14.00	15.60	17.20	1	23.20	8.62	1.0
SMF15CA	LM	15.00	16.70	18.50	1	24.40	8.20	1.0
SMF16CA	LP	16.00	17.80	19.70	1	26.00	7.69	1.0
SMF17CA	LR	17.00	18.90	20.90	1	27.60	7.25	1.0
SMF18CA	LT	18.00	20.00	22.10	1	29.20	6.85	1.0
SMF19CA	LB	19.00	21.10	23.30	1	30.60	6.54	1.0
SMF20CA	LV	20.00	22.20	24.50	1	32.40	6.17	1.0
SMF22CA	LX	22.00	24.40	26.90	1	35.50	5.63	1.0
SMF24CA	LZ	24.00	26.70	29.50	1	38.90	5.14	1.0
SMF26CA	ME	26.00	28.90	31.90	1	42.10	4.75	1.0
SMF28CA	MG	28.00	31.10	34.40	1	45.40	4.41	1.0
SMF30CA	MK	30.00	33.30	36.80	1	48.40	4.13	1.0
SMF33CA	MM	33.00	36.70	40.60	1	53.30	3.75	1.0
SMF36CA	MP	36.00	40.00	44.20	1	58.10	3.44	1.0
SMF40CA	MR	40.00	44.40	49.10	1	64.50	3.10	1.0
SMF43CA	MT	43.00	47.80	52.80	1	69.40	2.88	1.0
SMF45CA	MV	45.00	50.00	55.30	1	72.70	2.75	1.0
SMF48CA	MX	48.00	53.30	58.90	1	77.40	2.58	1.0
SMF51CA	MZ	51.00	56.70	62.70	1	82.40	2.43	1.0
SMF54CA	NE	54.00	60.00	66.30	1	87.10	2.30	1.0
SMF58CA	NG	58.00	64.40	71.20	1	93.60	2.14	1.0
SMF60CA	NK	60.00	66.70	73.70	1	96.80	2.07	1.0
SMF64CA	NM	64.00	71.10	78.60	1	103.00	1.94	1.0
SMF70CA	NP	70.00	77.80	86.00	1	113.00	1.77	1.0
SMF75CA	NR	75.00	83.30	92.10	1	121.00	1.65	1.0
SMF78CA	NT	78.00	86.70	95.80	1	126.00	1.59	1.0
SMF80CA	NB	80.00	88.80	97.60	1	129.00	1.55	1.0
SMF85CA	NV	85.00	94.40	104.00	1	137.00	1.46	1.0
SMF90CA	NX	90.00	100.00	111.00	1	146.00	1.37	1.0
SMF100CA	NZ	100.00	111.00	123.00	1	162.00	1.23	1.0
SMF110CA	PE	110.00	122.00	135.00	1	177.00	1.13	1.0
SMF120CA	PG	120.00	133.00	147.00	1	193.00	1.04	1.0
SMF130CA	PK	130.00	144.00	159.00	1	209.00	0.96	1.0
SMF140CA	PB	140.00	155.00	171.00	1	224.00	0.89	1.0
SMF150CA	PM	150.00	167.00	185.00	1	243.00	0.82	1.0
SMF160CA	PP	160.00	178.00	197.00	1	259.00	0.77	1.0
SMF170CA	PR	170.00	189.00	209.00	1	275.00	0.73	1.0
SMF180CA	PT	180.00	200.00	220.00	1	290.00	0.69	1.0
SMF190CA	PV	190.00	211.00	232.00	1	290.00	0.69	1.0



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RECOMMENDED SOLDERING PROFILE:

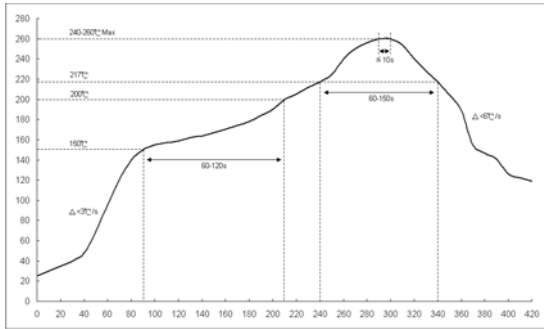


Fig 1: Reflow soldering profile for lead-free solder (SnAgCu)

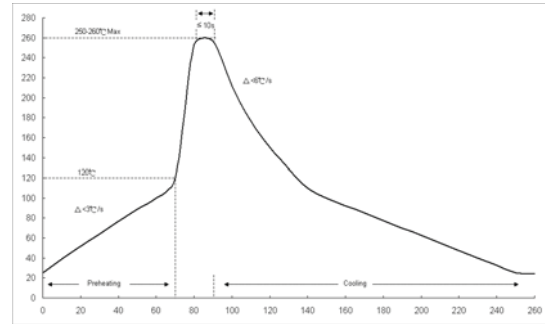


Fig 2: Wave soldering profile.

Electrical Curve:

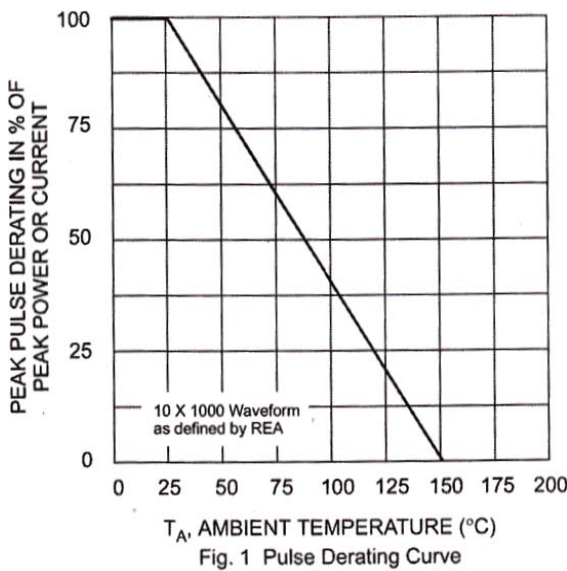


Fig. 1 Pulse Derating Curve

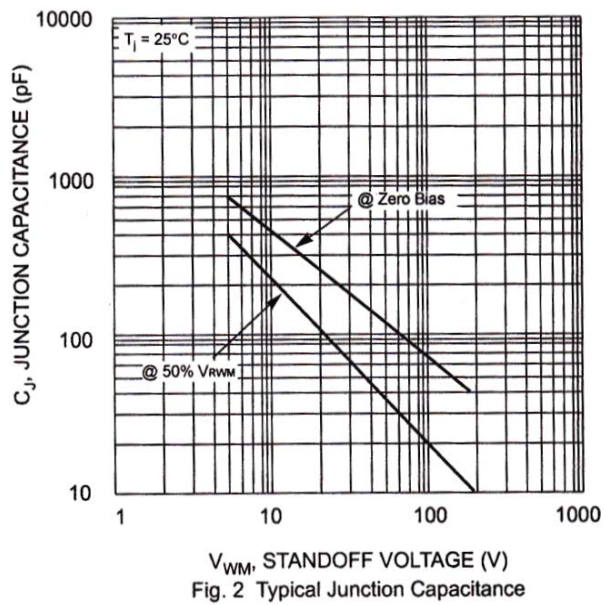


Fig. 2 Typical Junction Capacitance

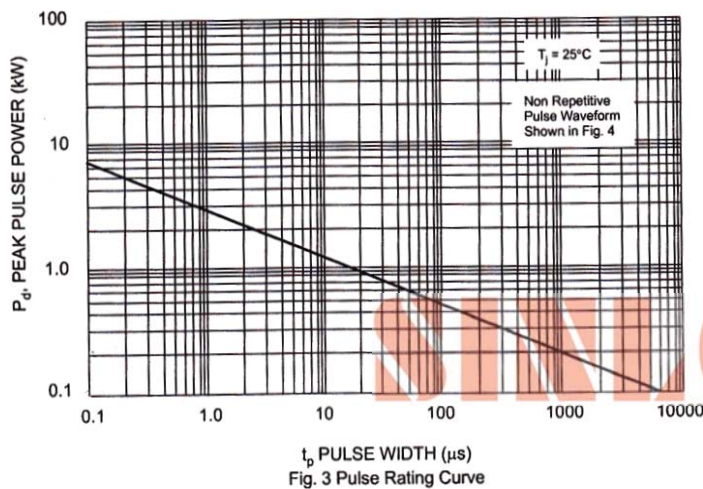


Fig. 3 Pulse Rating Curve

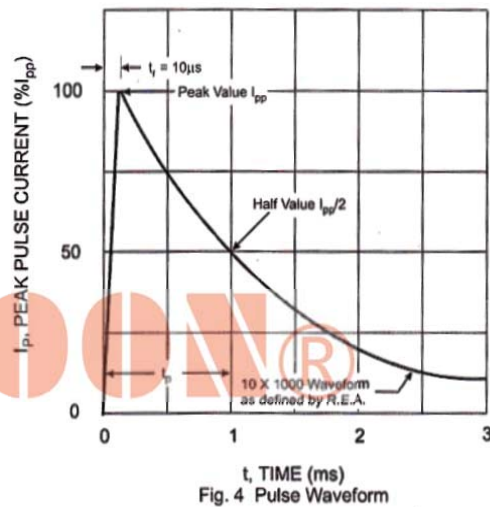


Fig. 4 Pulse Waveform

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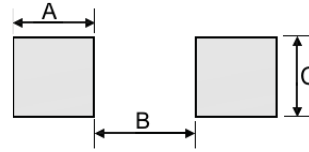
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RECOMMENDED SOLDERING FOOTPRINT

TYPE	Dimension Inches (mm)		
	A	B	C
SOD-123FL	0.047(1.2)	0.072(1.85)	0.047(1.2)



MARKING INFORMATION

Cathode: Polarity Band
Marking: See part code

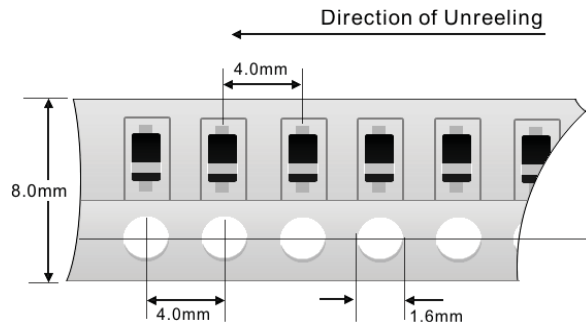


COMMON PACKING INFORMATION:

Product Number:	Package Type	Packing Quantity	Carton Quantity	Apporx Gross Weight
SMF Series	SOD-123FL	3000 Tape & Reel	150,000 Ctn	10 Kg

Reel Diameter (mm)	Quantity (Pcs)	Inner Box Size (mm)	Carton Size (mm)
178	3000	L: 187 x W:187 x H: 65	L:390 x W:240 x H:420

Reel Tape Fig-1



Inner Box Fig-2



Carton



Remark:

Shipping quantity given is for minimum packing quantity only, For minimum order quantity, please consult the Sales Department.

※ 美隆電子產品規格特性參數的改變或更新,將不會另行通知。

※ Mayloon characteristic parameters of electronic product specification changes or updates without prior notice。

