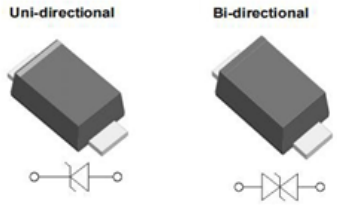
Transient Voltage Suppressors

FEATURES：

- For surface mounted applications
- 200W peak pulse power capability on 10/1000μs waveform
- Low incremental surge resistance, excellent clamping capability
- Very fast response time
- High temperature soldering guaranteed: 260℃/10 seconds
- RoHS compliant.



SOD-123FL (SMF)

MECHANICAL DATA：

- Case：Molded plastic body
- Polarity：Polarity symbol marking on body

MAXIMUM RATINGS (Ratings at 25 ℃ ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at T_A=25ºC by 10x1000μs waveform	P_{PPM}	200	W
Power Dissipation on infinite heat sink at T_A=50℃	$P_{M(AV)}$	1	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave	I_{FSM}	25	A
Maximum Instantaneous Forward Voltage at 0.2A for Unidirectional	V_F	1.2	V
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	°C
Typical Thermal Resistance Junction to Lead	R_{Ujl}	100	°C/W
Typical Thermal Resistance Junction to Ambient	R_{uJA}	220	°C/W

Electrical Characteristics

P/N		Marking		VR (V)	VBR @ IT (V)		IT (mA)	IR@ VR (μA)		Ipp (A)	VC@ Ipp (V)
Uni	Bi	Uni	Bi		MIN	MAX		Uni	Bi		
SMF5.0A	SMF5.0CA	AE	HE	5	6.4	7	10	100	200	21.7	9.2
SMF6.0A	SMF6.0CA	AG	HG	6	6.67	7.37	10	100	200	19.4	10.3
SMF6.5A	SMF6.5CA	AK	HK	6.5	7.22	7.98	10	50	80	17.9	11.2
SMF7.0A	SMF7.0CA	AM	HM	7	7.78	8.6	10	50	80	16.7	12
SMF7.5A	SMF7.5CA	AP	HP	7.5	8.33	9.21	1	2	30	15.5	12.9
SMF8.0A	SMF8.0CA	AR	HR	8	8.89	9.83	1	2	2	14.7	13.6
SMF8.5A	SMF8.5CA	AT	HT	8.5	9.44	10.4	1	2	8	13.9	14.4
SMF9.0A	SMF9.0CA	AV	HV	9	10	11.1	1	1.0	2.0	13.0	15.4
SMF10A	SMF10CA	AX	HX	10	11.1	12.3	1	1.0	1.0	11.8	17
SMF11A	SMF11CA	AZ	HZ	11	12.2	13.5	1	1.0	1.0	11.0	18.2
SMF12A	SMF12CA	BE	IE	12	13.3	14.7	1	1.0	1.0	10.1	19.9
SMF13A	SMF13CA	BG	IG	13	14.4	15.9	1	1.0	1.0	9.3	21.5
SMF14A	SMF14CA	BK	IK	14	15.6	17.2	1	1.0	1.0	8.6	23.2
SMF15A	SMF15CA	BM	IM	15	16.7	18.5	1	1.0	1.0	8.2	24.4
SMF16A	SMF16CA	BP	IP	16	17.8	19.7	1	1.0	1.0	7.7	26
SMF17A	SMF17CA	BR	IR	17	18.9	20.9	1	1.0	1.0	7.2	27.6
SMF18A	SMF18CA	BT	IT	18	20	22.1	1	1.0	1.0	6.8	29.2
SMF20A	SMF20CA	BV	IV	20	22.2	24.5	1	1.0	1.0	6.2	32.4
SMF22A	SMF22CA	BX	IX	22	24.4	26.9	1	1.0	1.0	5.6	35.5
SMF24A	SMF24CA	BZ	IZ	24	26.7	29.5	1	1.0	1.0	5.1	38.9
SMF26A	SMF26CA	CE	JE	26	28.9	31.9	1	1.0	1.0	4.8	42.1
SMF28A	SMF28CA	CG	JG	28	31.1	34.4	1	1.0	1.0	4.4	45.4
SMF30A	SMF30CA	CK	JK	30	33.3	36.8	1	1.0	1.0	4.1	48.4
SMF33A	SMF33CA	CM	JM	33	36.7	40.6	1	1.0	1.0	3.8	53.3
SMF36A	SMF36CA	CP	JP	36	40	44.2	1	1.0	1.0	3.4	58.1
SMF40A	SMF40CA	CR	JR	40	44.4	49.1	1	1.0	1.0	3.1	64.5
SMF43A	SMF43CA	CT	JT	43	47.8	52.8	1	1.0	1.0	2.9	69.4
SMF45A	SMF45CA	CV	JV	45	50	55.3	1	1.0	1.0	2.8	72.7
SMF48A	SMF48CA	CX	JX	48	53.3	58.9	1	1.0	1.0	2.6	77.4
SMF51A	SMF51CA	CZ	JZ	51	56.7	62.7	1	1.0	1.0	2.4	82.4
SMF54A	SMF54CA	DE	KE	54	60	66.3	1	1.0	1.0	2.3	87.1
SMF58A	SMF58CA	RG	KG	58	64.4	71.2	1	1.0	1.0	2.1	93.6
SMF60A	SMF60CA	RK	KK	60	66.7	73.7	1	1.0	1.0	2.1	96.8
SMF64A	SMF64CA	RM	KM	64	71.1	78.6	1	1.0	1.0	1.9	103
SMF70A	SMF70CA	RP	KP	70	77.8	86	1	1.0	1.0	1.7	113
SMF75A	SMF75CA	RR	KR	75	83.3	92.1	1	1.0	1.0	1.6	121
SMF78A	SMF78CA	RT	KT	78	86.7	95.8	1	1.0	1.0	1.6	126
SMF85A	SMF85CA	RV	KV	85	94.4	104	1	1.0	1.0	1.5	137
SMF90A	SMF90CA	RX	KX	90	100	111	1	1.0	1.0	1.2	146
SMF100A	SMF100CA	RZ	KZ	100	111	123	1	1.0	1.0	1.1	162
SMF110A	SMF110CA	SE	LE	110	122	135	1	1.0	1.0	1.1	177
SMF120A	SMF120CA	SG	LG	120	133	147	1	1.0	1.0	1.0	193
SMF130A	SMF130CA	SK	LK	130	144	159	1	1.0	1.0	1.0	209
SMF150A	SMF150CA	SM	LM	150	167	185	1	1.0	1.0	0.8	243
SMF160A	SMF160CA	SP	LP	160	178	197	1	1.0	1.0	0.8	259
SMF170A	SMF170CA	SR	LR	170	189	209	1	1.0	1.0	0.7	275
SMF180A	SMF180CA	ST	LT	180	201	222	1	1.0	1.0	0.7	292
SMF188A	SMF188CA	SV	LV	188	209	231	1	1.0	1.0	0.7	304
SMF200A	SMF200CA	SX	LX	200	224	247	1	1.0	1.0	0.6	324
SMF220A	SMF220CA	SZ	LZ	220	246	272	1	1.0	1.0	0.6	356

SMF250A	SMF250CA	TE	ME	250	279	309	1	1.0	1.0	0.5	405

Notes： For stack-die parts, use * to label the part number.

Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

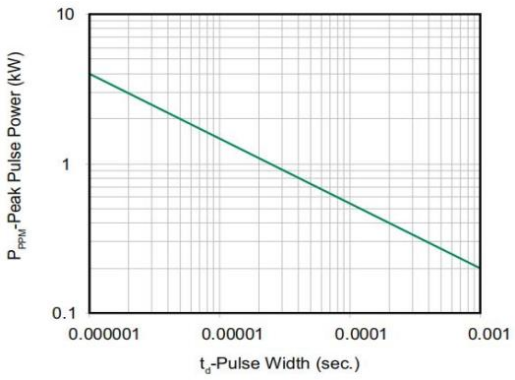


Figure 1. Peak Pulse Power Rating Curve

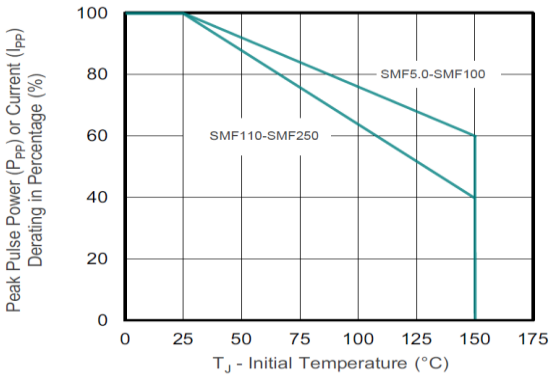


Figure 2. Pulse Derating Curve

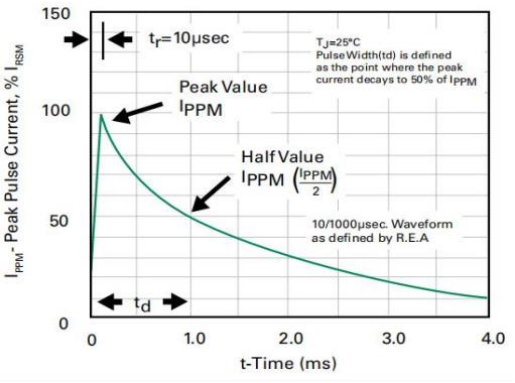


Figure 3. Pulse Waveform

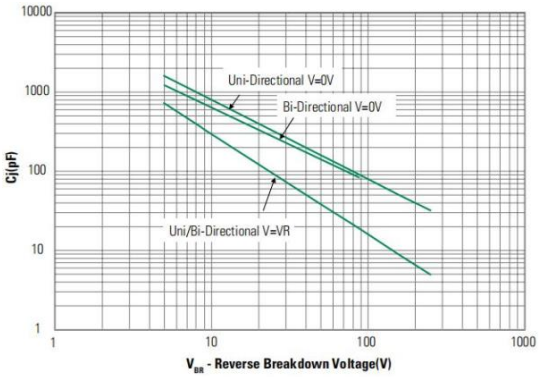


Figure 4. Typical Junction Capacitance

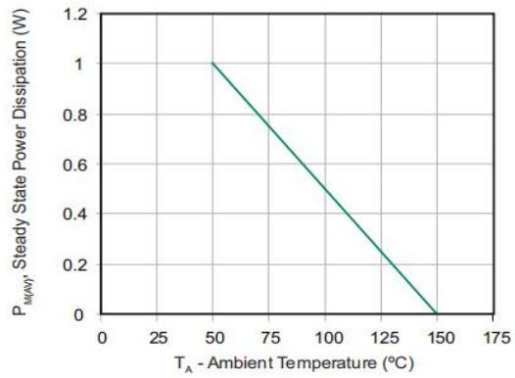


Figure 5. Steady State Power Dissipation Derating Curve

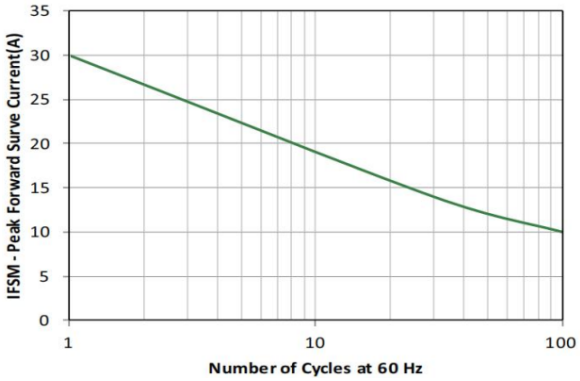
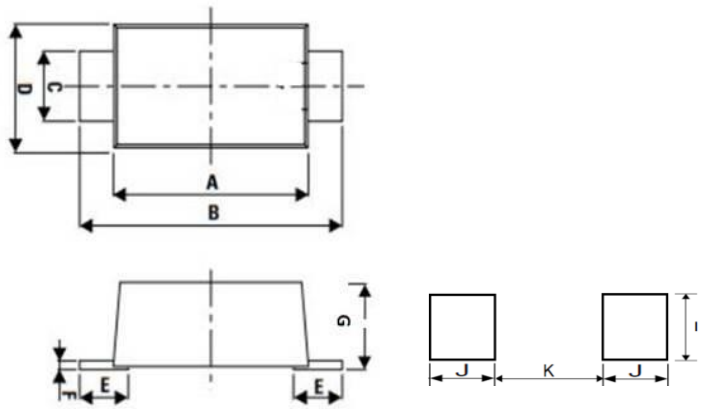


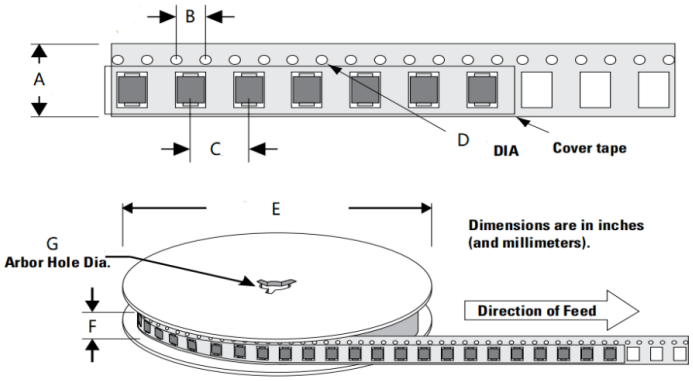
Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

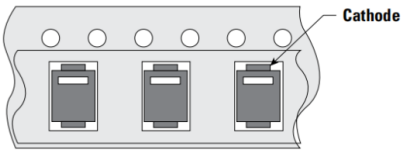
• SOD-123FL Package outlines : Dimensions in millimeters

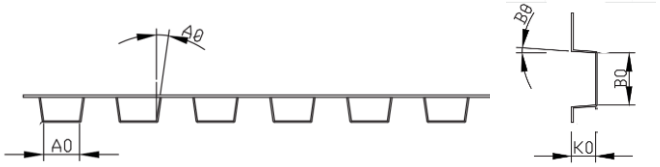


Dimensions	Millimeters	
	Min	Max
A	2.50	3.10
B	3.40	4.00
C	0.70	1.20
D	1.50	2.00
E	0.35	0.90
F	0.05	0.26
G	0.95	1.30
I	1.35	
J	1.20	
K		1.90

• Tape & Reel Information







Dimensions	Millimeters	
	Min	Max
A	8.00	8.10
B	3.90	4.10
C	3.90	4.10
D	1.50	1.60
E	177.5	178.5
F	9.00	10.00
G	13.10	13.50
A0	1.75	1.95
B0	3.84	4.04
K0	1.48	1.68
Aθ	--	8^{o}
Bθ	--	5^{o}

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