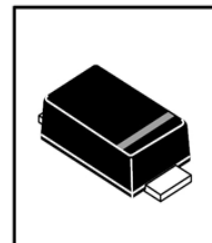


特性/机械性能:
FEATURES/MECHANICAL DATA

- ◆ Peak Power – 200 Watts @ 1 ms (SMF5.0A – SMF58A)
– 175 Watts @ 1 ms (SMF60A – SMF170A)
- ◆ Maximum Clamp Voltage @ Peak Pulse Current
- ◆ Low Leakage
- ◆ ESD Rating of Class 3 (> 16 kV) per Human Body Model
IEC61000-4-2 Level 4 ESD Protection 、 IEC61000-4-4 40 A ESD Protection
- ◆ Small Footprint – Footprint Area of 8.45 mm²
- ◆ Supplied in 8 mm Tape and Reel – 3,000 Units per Reel
- ◆ Cathode Indicated by Polarity Band
- ◆ CASE: Void-free, transfer-molded, thermosetting plastic Epoxy Meets UL94V-O
- ◆ LEAD FINISH: 100% Matte Sn
- ◆ MOUNTING POSITION: Any
- ◆ QUALIFIED MAX REFLOW TEMPERATURE: 260°C


SOD-123
最大额定值及电气特性:
MAXIMUM RATINGS AND CHARACTERISTICS

测量环境温度为25°C，除非另有规定。Rating at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Maximum Ppk Dissipation (PW=10/1000 ms) (Note 1) SMF60A – SMF170A(Note 1)	P _{pk}	175	W
Maximum Ppk Dissipation (PW=10/1000 ms) (Note 1) SMF5.0A – SMF58A	P _{pk}	200	W
Maximum Ppk Dissipation @ TA = 25°C, (PW=8/20 ms) (Note 2)	P _{pk}	1000	W
DC Power Dissipation @ TA = 25°C (Note 3)	P _D	385	mW
Derate above 25°C		4.0	mW/ °C
Thermal Resistance from Junction to Ambient (Note 3)	R _{θJA}	325	°C/W
Thermal Resistance from Junction to Lead (Note 3)	R _{θJcathode}	26	°C/W
Operating and Storage Temperature Range	T _J , T _{stg}	-55 to +150	°C

NOTES;

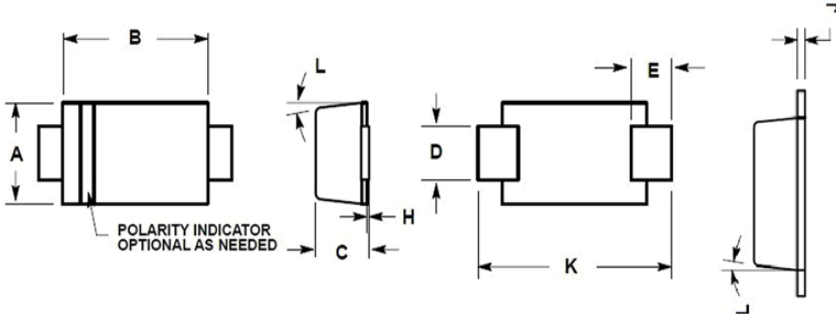
1. Non-repetitive current pulse at TA = 25°C, per waveform of Figure 2.
2. Non-repetitive current pulse at TA = 25°C, per waveform of Figure 3.
3. Mounted with recommended minimum pad size, DC board FR-4.
4. TL = 30°C unless otherwise noted, VF = 1.25 Volts @ 200 mA

[SMF Series]

Transient Voltage Suppressor 瞬变电压抑制二极管 TVS

产品外形尺寸:

PRODUCT APPEARANCE SIZE



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.80	0.059	0.071
B	2.50	2.90	0.098	0.114
C	0.90	1.20	0.035	0.047
D	0.70	1.10	0.028	0.043
E	0.50	0.95	0.020	0.037
H	0.00	0.10	0.000	0.004
J	0.10	0.20	0.004	0.008
K	3.40	3.90	0.134	0.154
L	0°	8°	0°	8°

电特性:

ELECTRICAL CHARACTERISTICS

型 号 Device Type	标识代码 Marking		击穿电压 Breakdown Voltage(Note1)		测试电流 Test Current	变位电压 Stand-off Voltage	最大反向漏电流 @V _{WM} Maximum Reverse leakage @V _{WM}	最大峰值脉冲 浪涌电流 Maximum Peak Pulse Reverse Current	最大箝位电压 @I _{ppm} Maximum Clamping Voltage @I _{ppm}
	UNI-	BI-	V (BR)(V) MIN	V (BR)(V) MAX	I _T (mA)	V _{WM} (V)	I _D (μA)	I _{ppm} (A)	V _C (Note2)(V)
SMF5.0(C)A	KE	FE	6.40	7.00	10	5	400	21.7	9.2
SMF6.0(C)A	KG	FG	6.67	7.37	10	6	400	19.4	10.3
SMF6.5(C)A	KK	FK	7.22	7.98	10	6.5	250	17.9	11.2
SMF7.0(C)A	KM	FM	7.78	8.60	10	7	100	16.7	12
SMF7.5(C)A	KP	FP	8.33	9.21	1	7.5	50	15.5	12.9
SMF8.0(C)A	KR	FR	8.89	9.83	1	8	25	14.7	13.6
SMF8.5(C)A	KT	FT	9.44	10.4	1	8.5	10	13.9	14.4
SMF9.0(C)A	KV	FV	10.0	11.1	1	9	5	13.0	15.4
SMF10(C)A	KX	FX	11.1	12.3	1	10	2.5	11.8	17
SMF11(C)A	KZ	FZ	12.2	13.5	1	11	2.5	11.0	18.2
SMF12(C)A	LE	HE	13.3	14.7	1	12	2.5	10.1	19.9
SMF13(C)A	LG	HG	14.4	15.9	1	13	1	9.3	21.5
SMF14(C)A	LK	HK	15.6	17.2	1	14	1	8.6	23.2
SMF15(C)A	LM	HM	16.7	18.5	1	15	1	8.2	24.4
SMF16(C)A	LP	HP	17.8	19.7	1	16	1	7.7	26
SMF17(C)A	LR	HR	18.9	20.9	1	17	1	7.2	27.6
SMF18(C)A	LT	HT	20.0	22.1	1	18	1	6.8	29.2
SMF20(C)A	LV	HV	22.2	24.5	1	20	1	6.2	32.4
SMF22(C)A	LX	HX	24.4	26.9	1	22	1	5.6	35.5
SMF24(C)A	LZ	HZ	26.7	29.5	1	24	1	5.1	38.9
SMF26(C)A	ME	JE	28.9	31.9	1	26	1	4.8	42.1
SMF28(C)A	MG	JG	31.1	34.4	1	28	1	4.4	45.4
SMF30(C)A	MK	JK	33.3	36.8	1	30	1	4.1	48.4
SMF33(C)A	MM	JM	36.7	40.6	1	33	1	3.8	53.3
SMF36(C)A	MP	JP	40.0	44.2	1	36	1	3.4	58.1
SMF40(C)A	MR	JR	44.4	49.1	1	40	1	3.1	64.5
SMF43(C)A	MT	JT	47.8	52.8	1	43	1	2.9	69.4
SMF45(C)A	MV	JV	50.0	55.3	1	45	1	2.8	72.7

电特性:
ELECTRICAL CHARACTERISTICS

型 号 Device Type	标识代码 Marking		击穿电压 Breakdown Voltage(Note1)		测试电流 Test Current	变位电压 Stand-off Voltage	最大反向漏电流 @ V_{WM} Maximum Reverse leakage @ V_{WM}	最大峰值脉冲 浪涌电流 Maximum Peak Pulse Reverse Current	最大箝位电压 @ I_{ppm} Maximum Clamping Voltage @ I_{ppm}
	UNI-	BI-	V (BR)(V) MIN	V (BR)(V) MAX	I_T (mA)	V_{WM} (V)	I_D (μA)	I_{ppm} (A)	V_C (Note2)(V)
SMF48(C)A	MX	JX	53.3	58.9	1	48	1	2.6	77.4
SMF51(C)A	MZ	JZ	56.7	62.7	1	51	1	2.4	82.4
SMF54(C)A	NE	XE	60	66.3	1	54	1	2.3	87.1
SMF58(C)A	NG	XG	64.4	71.2	1	58	1	2.1	93.6
SMF60(C)A	NK	XK	66.7	73.7	1	60	1	1.8	96.8
SMF64(C)A	NM	XM	71.1	78.6	1	64	1	1.7	103
SMF70(C)A	NP	XP	77.8	86	1	70	1	1.5	113
SMF75(C)A	NR	XR	83.3	92.1	1	75	1	1.4	121
SMF78(C)A	NT	XT	86.7	95.8	1	78	1	1.4	126
SMF85(C)A	NV	XV	94.4	104	1	85	1	1.3	137
SMF90(C)A	NX	XX	100	111	1	90	1	1.2	146
SMF100(C)A	NZ	XZ	111	123	1	100	1	1.1	162
SMF110(C)A	PE	TE	122	135	1	110	1	1.0	177
SMF120(C)A	PG	TG	133	147	1	120	1	0.9	193
SMF130(C)A	PK	TK	144	159	1	130	1	0.8	209
SMF150(C)A	PM	TM	167	185	1	150	1	0.7	243
SMF160(C)A	PP	TP	178	197	1	160	1	0.7	259
SMF170(C)A	PR	TR	189	209	1	170	1	0.6	275
SMF180(C)A	PT	TT	200	220	1	180	1	0.68	292
SMF190(C)A	PV	TV	211	232	1	190	1	0.65	308

NOTES: 1. VBR measured at pulse test current I_T at ambient temperature of 25 °C. 2. Surge current waveform per Figure 2. 3. For bidirectional types having V_{WM} of 10 volts and less, the I_D limit is doubled.

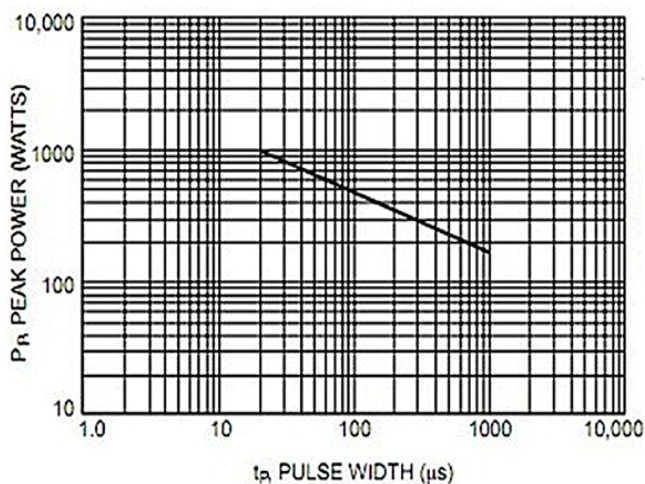
特性曲线图:
RATINGS AND CHARACTERISTIC CURVES


Figure 1. Pulse Rating Curve

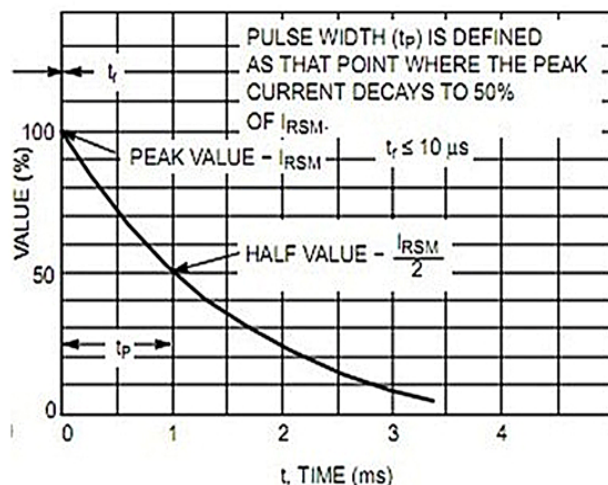


Figure 2. 10 X 1000 μs Pulse Waveform

[SMF Series]

Transient Voltage Suppressor 瞬变电压抑制二极管 TVS

特性曲线图:

RATINGS AND CHARACTERISTIC CURVES

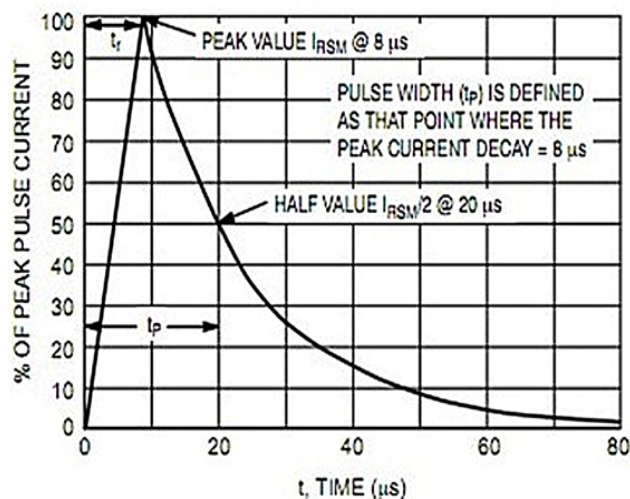


Figure 3. 8 X 20 μs Pulse Waveform

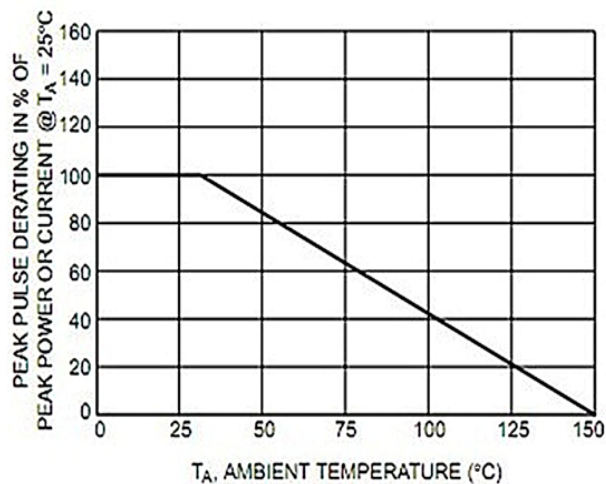


Figure 4. Pulse Derating Curve

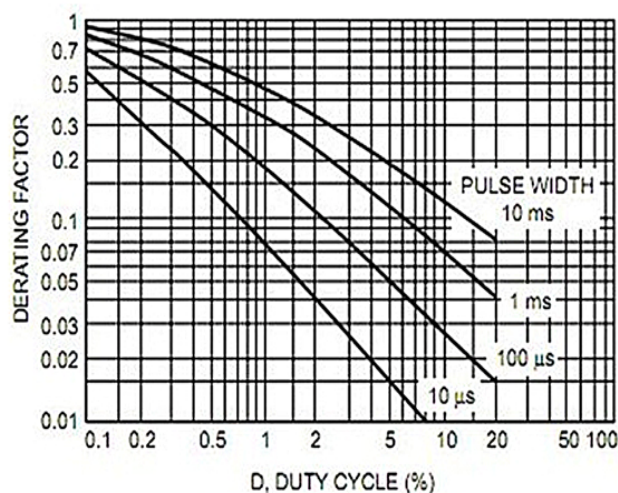


Figure 5. Typical Derating Factor for Duty Cycle

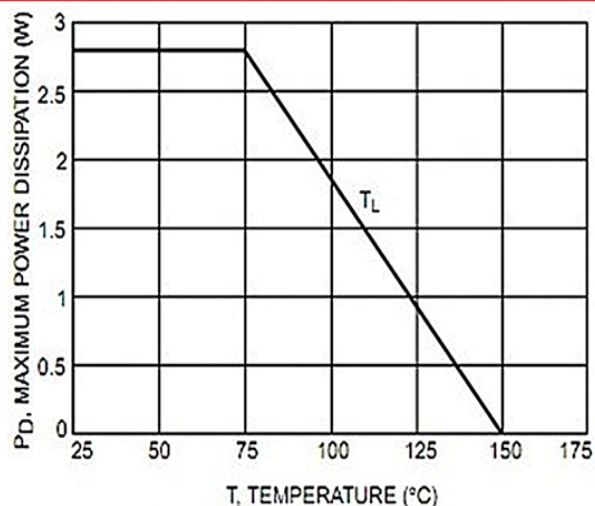


Figure 6. Steady State Power Derating

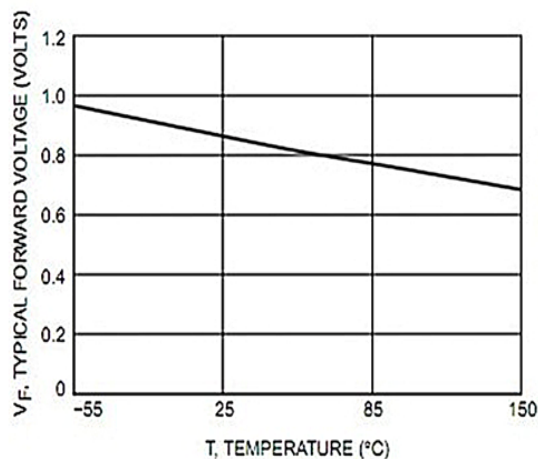


Figure 7. Forward Voltage

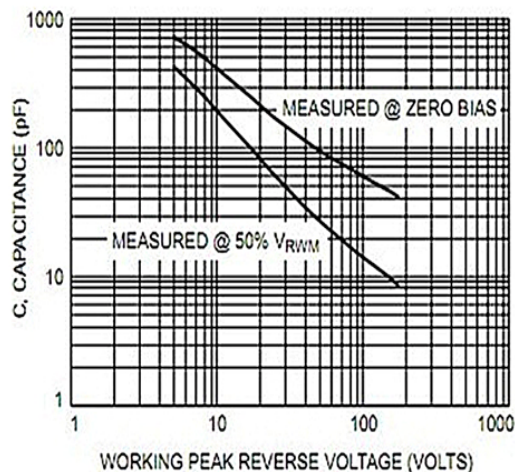


Figure 8. Capacitance versus Working Peak Reverse Voltage