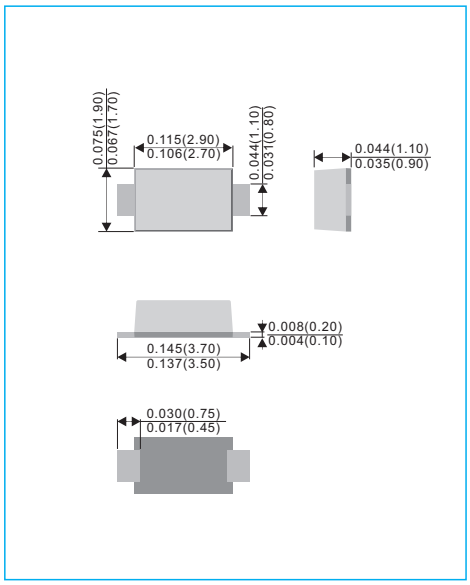
SMF5.0A~SMF175A

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE 5 to 175 Volt **POWER** 200 Watt

SOD-123FL Unit：inch(mm)

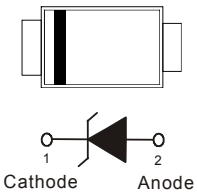


FEATURES

- For surface mounted applications in order to optimize board space.
- Ultra Thin Profile Package for Space Constrained Utilization
- Package suitable for Automated Handling
- Low inductance
- High temperature soldering : 260°C/10 seconds at terminals
- ESD IEC-61000-4-2 Air ± 30kV, Contact ± 30kV
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

MECHANICAL DATA

- Case: SOD-123FL, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.0006 ounces, 0.0173 grams
- Standrad Packaging: 8mm tape (EIA-481)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on T_A = 25°C (Notes 1,2,5) Fig.1	P_{PPM}	200	W
Peak Forward Surge Current per (Notes 3)	I_{FSM}	20	A
Peak Pulse Current on tp=10/1000μs waveform (Notes 1) Fig.3	I_{PPM}	see Table 1	A
Steady State Power Dissipation (Notes 4)	$P_{M(AV)}$	1	W
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	V_{ESD}	±30 ±30	kV
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 to +150	°C
Typical thermal resistance	$R_{\theta JA}$	180	°C

NOTES :

1.Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2 .

2.Mounted on 5mm² copper pads to each terminal.

3.8.3ms single half sine-wave, or equivalent square wave, duty cycle = 4 pulses per minutes maximum.

4.Lead temperature at 75°C =T_L .

5.Peak pulse power waveform is tp=10/1000μs.

6.A transient suppressor is selected according to the working peak reverse voltage(V_{RWM}), which should be equal to or greater than the DC or continuous peak operating voltage level.

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Part Number	V_{RWM} (Note 6)	V_{BR} @ I_T			I_R @ V_{RWM}	V_C @ I_{PP}		Marking Code
		Min.	Max.	I_T				
	V	V	V	mA	μA	V	A	
200W Transient Voltage Suppressor								
SMF5.0A	5	6.4	7	10	200	9.2	21.7	HE
SMF6.0A	6	6.7	7.4	10	100	10.3	19.4	HG
SMF6.5A	6.5	7.2	8	10	75	11.2	17.9	HK
SMF7.0A	7	7.8	8.6	10	50	12	16.7	HM
SMF7.5A	7.5	8.3	9.2	1	50	12.9	15.5	HP
SMF8.0A	8	8.9	9.8	1	25	13.6	14.7	HR
SMF8.5A	8.5	9.4	10.4	1	10	14.4	13.9	HT
SMF9.0A	9	10	11.1	1	5	15.4	13	HV
SMF10A	10	11.1	12.3	1	2.5	17	11.8	HX
SMF11A	11	12.2	13.5	1	2.5	18.2	11	HZ
SMF12A	12	13.3	14.7	1	2.5	19.9	10.1	IE
SMF13A	13	14.4	15.9	1	1	21.5	9.3	IG
SMF14A	14	15.6	17.2	1	1	23.2	8.6	IK
SMF15A	15	16.7	18.5	1	1	24.4	8.2	IM
SMF16A	16	17.8	19.7	1	1	26	7.7	IP
SMF17A	17	18.9	20.9	1	1	27.6	7.2	IR
SMF18A	18	20	22.1	1	1	29.2	6.8	IT
SMF20A	20	22.2	24.5	1	1	32.4	6.2	IV
SMF22A	22	24.4	26.9	1	1	35.5	5.6	IX
SMF24A	24	26.7	29.5	1	1	38.9	5.1	IZ
SMF26A	26	28.9	31.9	1	1	42.1	4.8	JE
SMF28A	28	31.1	34.4	1	1	45.4	4.4	JG
SMF30A	30	33.3	36.8	1	1	48.4	4.1	JK
SMF33A	33	36.7	40.6	1	1	53.3	3.8	JM
SMF36A	36	40	44.2	1	1	58.1	3.4	JP
SMF40A	40	44.4	49.1	1	1	64.5	3.1	JR
SMF43A	43	47.8	52.8	1	1	69.4	2.9	JT
SMF45A	45	50	55.3	1	1	72.7	2.8	JV
SMF48A	48	53.3	58.9	1	1	77.4	2.6	JX
SMF51A	51	56.7	62.7	1	1	82.4	2.4	JZ
SMF54A	54	60	66.3	1	1	87.1	2.3	RE
SMF58A	58	64.4	71.2	1	1	93.6	2.1	RG
SMF60A	60	66.7	73.7	1	1	96.8	1.8	RK
SMF64A	64	71.1	78.6	1	1	103	1.7	RM
SMF70A	70	77.8	86	1	1	113	1.5	RP
SMF75A	75	83.3	92.1	1	1	121	1.4	RR
SMF78A	78	86.7	95.8	1	1	126	1.4	RT
SMF85A	85	94.4	104	1	1	137	1.3	RV
SMF90A	90	100	111	1	1	146	1.2	RX
SMF100A	100	111	123	1	1	162	1.1	RZ
SMF110A	110	122	135	1	1	177	1	SE
SMF120A	120	133	147	1	1	193	0.9	SG
SMF130A	130	144	159	1	1	209	0.8	SK
SMF150A	150	167	185	1	1	243	0.7	SM
SMF160A	160	178	197	1	1	259	0.7	SP
SMF170A	170	189	209	1	1	275	0.6	SR
SMF175A	175	198	214	1	1	284	0.6	S5

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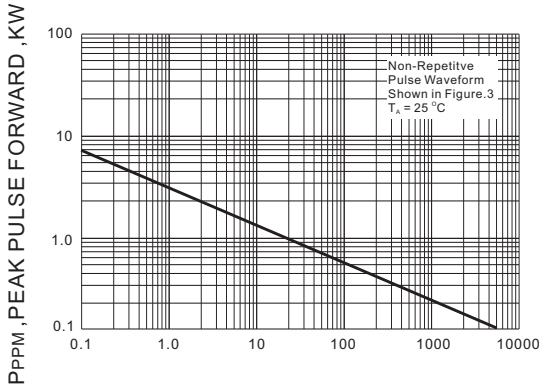

Fig.1 PEAK PULSE POWER RATING CURVE

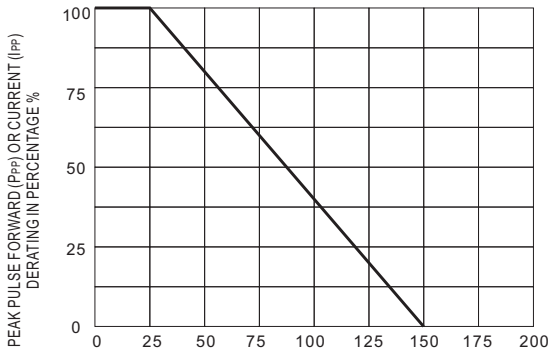

Fig.2 DERATING CURVE

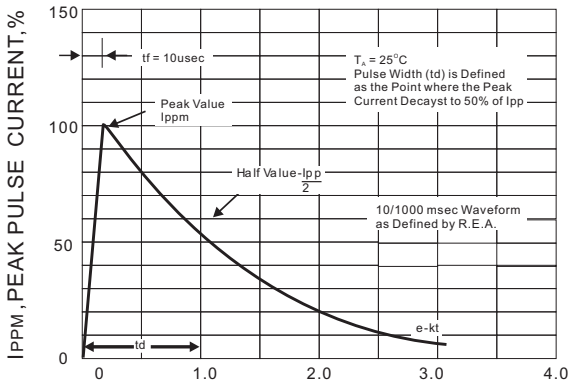

Fig.3 PULSE WAVEFORM

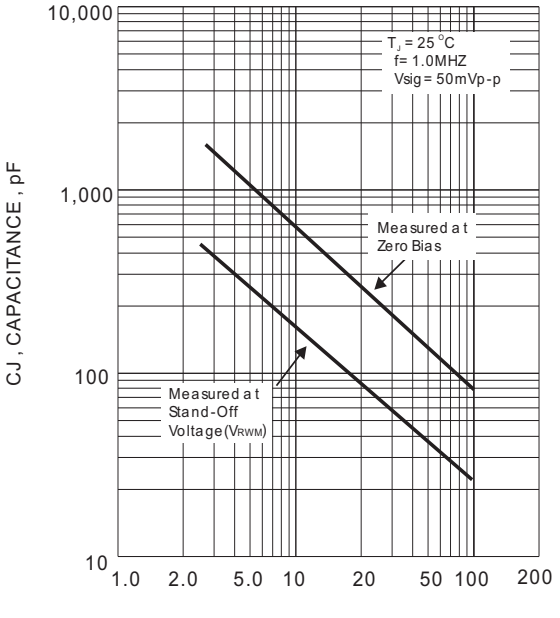

Fig.4 TYPICAL JUNCTION CAPACITANCE

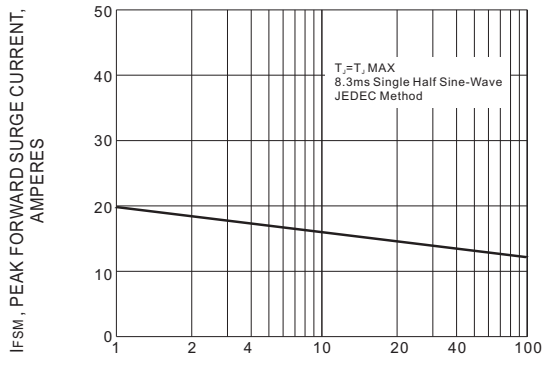

Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

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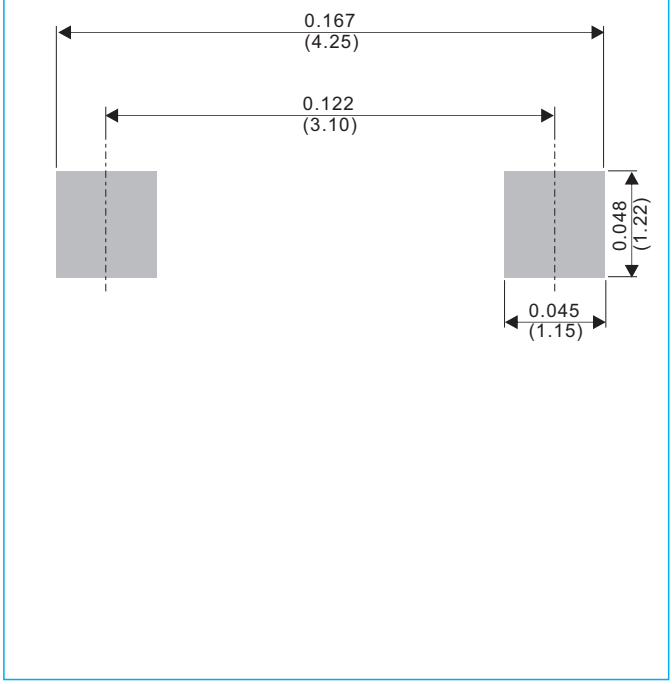
PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing Type	Marking	Version
SMF5.0A_R1_00001	SOD-123FL	3K / 7" Reel	HE	Halogen free

MOUNTING PAD LAYOUT

SOD-123FL Unit：inch(mm)



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