

Transient Voltage Suppressors 200W SOD-123FL

SMF-E Series

MERITEK

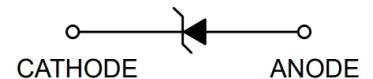
FEATURE

- IEC 61000-4-2 ESD: $\pm 30\text{KV}$ (Air), $\pm 30\text{KV}$ (Contact)
- 200W Peak Pulse Power (10/1000 μs Waveform)
- 5.0V to 175V Standoff Voltage
- Excellent Clamping Capability, Fast Response Time
- Green Molding Compound as per IEC 61249 Standard
- UL Flammability Classification Rating 94V-0



MECHANICAL DATA

- Case: SOD-123FL, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Color Band Denotes Cathode End



MAXIMUM RATINGS

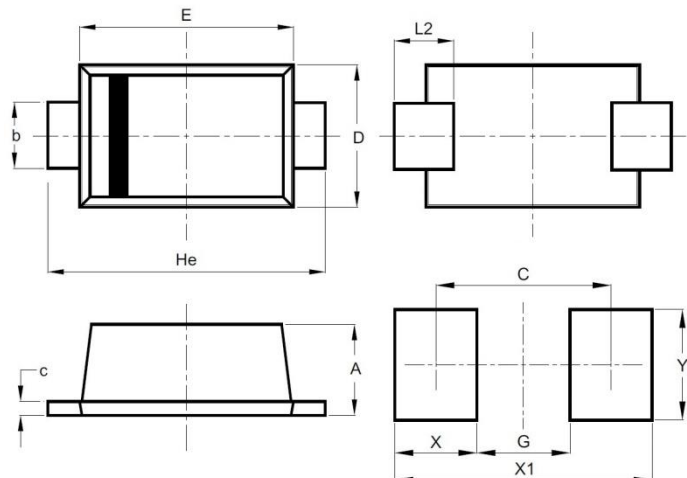
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation On 10/1000 μs Waveform	P_{PPM}	200	W
Peak Forward Surge Current	I_{FSM}	20	A
Peak Pulse Current On 10/1000 μs Waveform	I_{PPM}	See Table	A
Steady State Power Dissipation	$P_{M(AV)}$	1	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$
Typical Thermal Resistance	$R_{\theta JA}$	180	$^{\circ}\text{C}$

Note:

1. $T_A = 25^{\circ}\text{C}$ ambient temperature unless otherwise specified.
2. Non-repetitive current pulse, and derated above $T_A = 25^{\circ}\text{C}$.
3. Mounted on 5mm² copper pads to each terminal.
4. 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum.
5. Lead temperature at $75^{\circ}\text{C}=T_L$ for $P_{M(AV)}$
6. Peak pulse power waveform is $t_p=10/1000\mu\text{s}$.
7. A transient suppressor is selected according to the working peak reverse voltage, which should be equal to or greater than the DC or continuous peak operating voltage level.

DIMENSIONS

SOD-123FL	Min (mm)	Max (mm)
A	0.90	1.10
b	0.80	1.10
c	0.10	0.20
D	1.70	1.90
E	2.70	2.90
He	3.50	3.70
L2	0.45	0.75
G	1.95	
C	3.10	
X	1.15	
X1	4.25	
Y	1.22	



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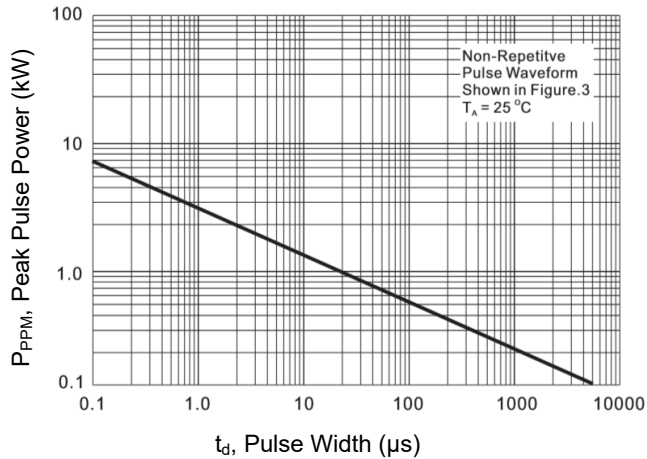
ELECTRICAL CHARACTERISTICS

Part Number	Working Reverse Voltage	Reverse Breakdown Voltage		Test Current	Max Reverse Leakage Current	Max Clamping Voltage	Reverse Surge Current
		V _{BR} Min(V)	V _{BR} Max(V)				
Uni-Polar	V _{RWM} (V)	V _{BR} Min(V)	V _{BR} Max(V)	I _T (mA)	I _R (uA) @ V _{RWM}	V _C (V) @ I _{PP}	I _{PP} (A) Max
SMF5.0A-E	5.0	6.4	7.0	10	200	9.2	21.7
SMF6.0A-E	6.0	6.7	7.4	10	100	10.3	19.4
SMF6.5A-E	6.5	7.2	8.0	10	75	11.2	17.9
SMF7.0A-E	7.0	7.8	8.6	10	50	12.0	16.7
SMF7.5A-E	7.5	8.3	9.2	1	50	12.9	15.5
SMF8.0A-E	8.0	8.9	9.8	1	25	13.6	14.7
SMF8.5A-E	8.5	9.4	10.4	1	10	14.4	13.9
SMF9.0A-E	9.0	10.0	11.1	1	5.0	15.4	13.0
SMF10A-E	10	11.1	12.3	1	2.5	17.0	11.8
SMF11A-E	11	12.2	13.5	1	2.5	18.2	11.0
SMF12A-E	12	13.3	14.7	1	2.5	19.9	10.1
SMF13A-E	13	14.4	15.9	1	1	21.5	9.3
SMF14A-E	14	15.6	17.2	1	1	23.2	8.6
SMF15A-E	15	16.7	18.5	1	1	24.4	8.2
SMF16A-E	16	17.8	19.7	1	1	26.0	7.7
SMF17A-E	17	18.9	20.9	1	1	27.6	7.2
SMF18A-E	18	20.0	22.1	1	1	29.2	6.8
SMF20A-E	20	22.2	24.5	1	1	32.4	6.2
SMF22A-E	22	24.4	26.9	1	1	35.5	5.6
SMF24A-E	24	26.7	29.5	1	1	38.9	5.1
SMF26A-E	26	28.9	31.9	1	1	42.1	4.8
SMF28A-E	28	31.1	34.4	1	1	45.4	4.4
SMF30A-E	30	33.3	36.8	1	1	48.4	4.1
SMF33A-E	33	36.7	40.6	1	1	53.3	3.8
SMF36A-E	36	40.0	44.2	1	1	58.1	3.4
SMF40A-E	40	44.4	49.1	1	1	64.5	3.1
SMF43A-E	43	47.8	52.8	1	1	69.4	2.9
SMF45A-E	45	50.0	55.3	1	1	72.7	2.8
SMF48A-E	48	53.3	58.9	1	1	77.4	2.6
SMF51A-E	51	56.7	62.7	1	1	82.4	2.4
SMF54A-E	54	60.0	66.3	1	1	87.1	2.3
SMF58A-E	58	64.4	71.2	1	1	93.6	2.1
SMF60A-E	60	66.7	73.7	1	1	96.8	1.8
SMF64A-E	64	71.1	78.6	1	1	103	1.7
SMF70A-E	70	77.8	86.0	1	1	113	1.5
SMF75A-E	75	83.3	92.1	1	1	121	1.4
SMF78A-E	78	86.7	95.8	1	1	126	1.4
SMF85A-E	85	94.4	104	1	1	137	1.3
SMF90A-E	90	100	111	1	1	146	1.2
SMF100A-E	100	111	123	1	1	162	1.1
SMF110A-E	110	122	135	1	1	177	1.0
SMF120A-E	120	133	147	1	1	193	0.9
SMF130A-E	130	144	159	1	1	209	0.8
SMF150A-E	150	167	185	1	1	243	0.7
SMF160A-E	160	178	197	1	1	259	0.7
SMF170A-E	170	189	209	1	1	275	0.6
SMF175A-E	175	198	214	1	1	284	0.6

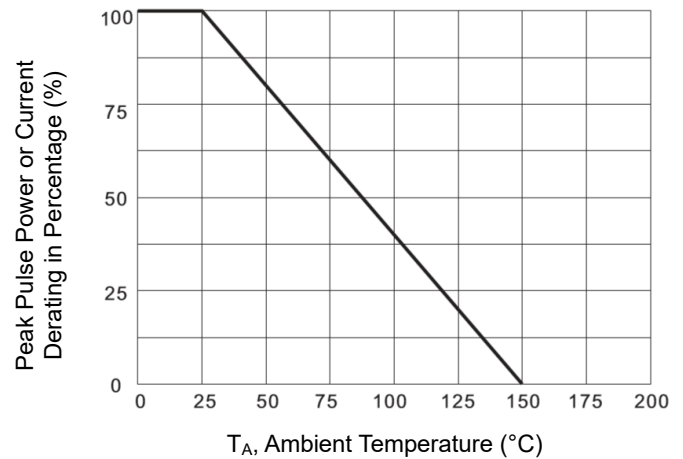
Note: T_A = 25°C ambient temperature unless otherwise specified

CHARACTERISTIC CURVES

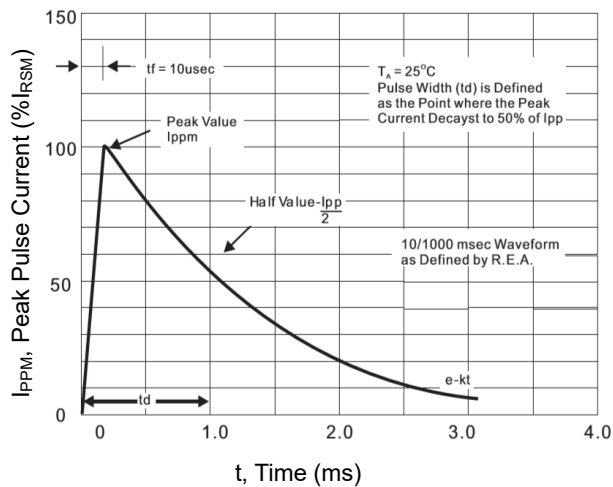
Peak Pulse Power Rating Curve



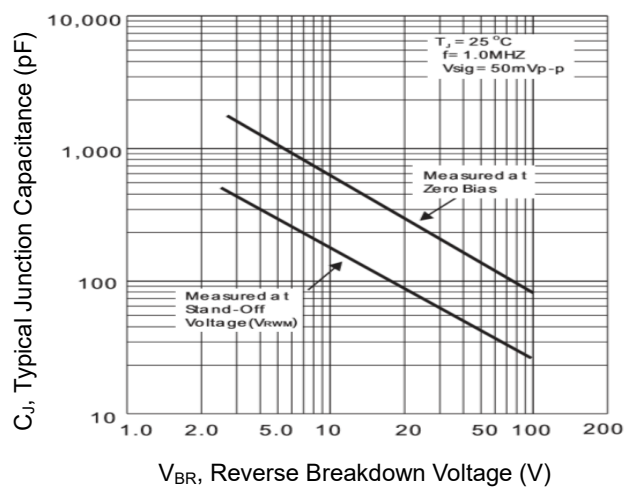
Pulse Derating Curve



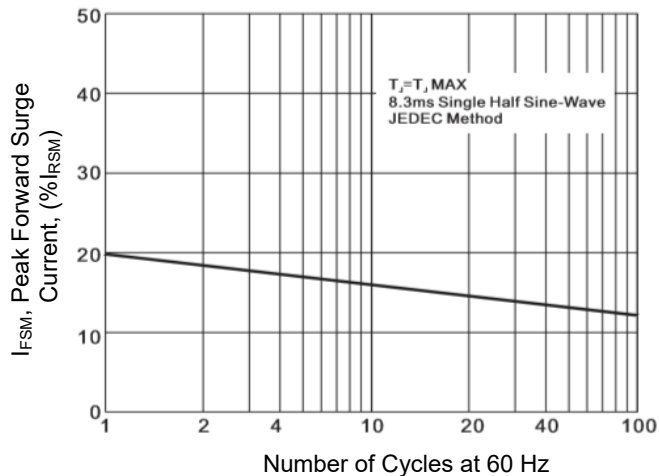
Pulse Waveform



Typical Junction Capacitance



Maximum Non-Repetitive Peak Forward Surge Current



*Specifications subject to change without notice.