



SMF5.0A(CA) - SMF170A(CA)

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR DIODE

VOLTAGE RANGE: 5.0 - 170V

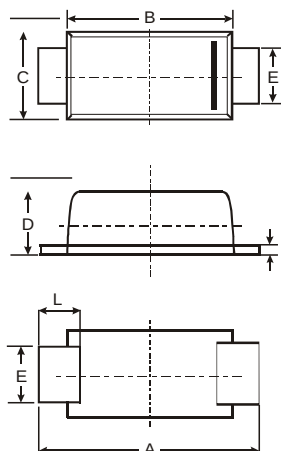
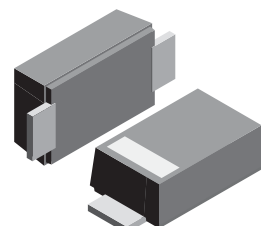
POWER: 200Watts

Features

- For surface mounted applications
- Low profile package
- Low incremental surge resistance, excellent clamping capability
- 200W peak pulse power capability with a 10/1000 μ s wave from, repetition rate (duty cycle): 0.01%
- High temperature soldering guaranteed: 260 $^{\circ}$ C / 10 seconds, at terminals

Mechanical Data

- Case: JEDEC SOD-123FL, molded plastic over passivated chip
- Polarity: Color band denotes positive end (cathode) except for bidirectional
- Mounting position: Any
- Weight: 0.006 ounces, 0.02 gram



SOD-123FL			
Dim	Min	Max	Typ
A	3.50	3.80	3.65
B	2.60	2.90	2.75
C	1.70	1.90	1.80
D	1.00	1.30	1.15
E	0.80	1.10	0.95
H	0.12	0.20	0.16
L	0.07	0.09	0.08
All Dimensions in mm			

Maximum Ratings $T_A = 25^{\circ}\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Maximum P_{PK} Dissipation (PW - 10/1000 μ s)	P_{PK}	200	W
Maximum P_{PK} Dissipation @ $T_A = 25^{\circ}\text{C}$ (PW - 8/10 μ s) (Note 2)	P_{PK}	1000	W
DC Power Dissipation @ $T_A = 25^{\circ}\text{C}$ (Note 3)	P_D	385	mW
Derate above 25°C		4.0	mW/ $^{\circ}\text{C}$
Thermal Resistance, Junction to Ambient (Note 3)	$R_{\theta JA}$	325	$^{\circ}\text{C}/\text{W}$
Thermal Resistance, Junction to Lead (Note 3)	$R_{\theta JL}$	26	$^{\circ}\text{C}/\text{W}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$

Notes :

- (1) Non-repetitive current pulse at $T_A = 25^{\circ}\text{C}$, per waveform of Fig. 2.
- (2) Non-repetitive current pulse at $T_A = 25^{\circ}\text{C}$, per waveform of Fig. 5.
- (3) Mounted with recommended minimum pad size, DC board FR4.



TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @ I _T	Breakdown Voltage Max. @ I _T	Test Current	Reverse Leakage @ V _{RWM}	Maximum Clamping Voltage @ I _{PP}	Peak Pulse Current
(Uni)	(Bi)	V _{RWM} (V)	V _{BR} MIN (V)	V _{BR} MAX (V)	I _T (mA)	I _R (uA)	V _C (V)	I _{PP} (A)
SMF5.0A	SMF5.0CA	5.0	6.40	7.00	10	400	9.2	21.7
SMF6.0A	SMF6.0CA	6.0	6.67	7.37	10	400	10.3	19.4
SMF6.5A	SMF6.5CA	6.5	7.22	7.98	10	250	11.2	17.9
SMF7.0A	SMF7.0CA	7.0	7.78	8.60	10	100	12.0	16.7
SMF7.5A	SMF7.5CA	7.5	8.33	9.21	1.0	50	12.9	15.5
SMF8.0A	SMF8.0CA	8.0	8.89	9.83	1.0	25	13.6	14.7
SMF8.5A	SMF8.5CA	8.5	9.44	10.4	1.0	10	14.4	13.9
SMF9.0A	SMF9.0CA	9.0	10.0	11.1	1.0	5.0	15.4	13.0
SMF10A	SMF10CA	10	11.1	12.3	1.0	2.5	17.0	11.8
SMF11A	SMF11CA	11	12.2	13.5	1.0	2.5	18.2	11.0
SMF12A	SMF12CA	12	13.3	14.7	1.0	2.5	19.9	10.1
SMF13A	SMF13CA	13	14.4	15.9	1.0	1.0	21.5	9.3
SMF14A	SMF14CA	14	15.6	17.2	1.0	1.0	23.2	8.6
SMF15A	SMF15CA	15	16.7	18.5	1.0	1.0	24.4	8.2
SMF16A	SMF16CA	16	17.8	19.7	1.0	1.0	26.0	7.7
SMF17A	SMF17CA	17	18.9	20.9	1.0	1.0	27.6	7.2
SMF18A	SMF18CA	18	20.0	22.1	1.0	1.0	29.2	6.8
SMF20A	SMF20CA	20	22.2	24.5	1.0	1.0	32.4	6.2
SMF22A	SMF22CA	22	24.4	26.9	1.0	1.0	35.5	5.6
SMF24A	SMF24CA	24	26.7	29.5	1.0	1.0	38.9	5.1
SMF26A	SMF26CA	26	28.9	31.9	1.0	1.0	42.1	4.8
SMF28A	SMF28CA	28	31.1	34.4	1.0	1.0	45.4	4.4
SMF30A	SMF30CA	30	33.3	36.8	1.0	1.0	48.4	4.1
SMF33A	SMF33CA	33	36.7	40.6	1.0	1.0	53.3	3.8
SMF36A	SMF36CA	36	40.0	44.2	1.0	1.0	58.1	3.4
SMF40A	SMF40CA	40	44.4	49.1	1.0	1.0	64.5	3.1
SMF43A	SMF43CA	43	47.8	52.8	1.0	1.0	69.4	2.9
SMF45A	SMF45CA	45	50.0	55.3	1.0	1.0	72.7	2.8
SMF48A	SMF48CA	48	53.3	58.9	1.0	1.0	77.4	2.6
SMF51A	SMF51CA	51	56.7	62.7	1.0	1.0	82.4	2.4
SMF54A	SMF54CA	54	60.0	66.3	1.0	1.0	87.1	2.3
SMF58A	SMF58CA	58	64.4	71.2	1.0	1.0	93.6	2.1
SMF60A	SMF60CA	60	66.7	73.7	1.0	1.0	96.8	1.8
SMF64A	SMF64CA	64	71.1	78.6	1.0	1.0	103	1.7
SMF70A	SMF70CA	70	77.8	86.0	1.0	1.0	113	1.5
SMF75A	SMF75CA	75	83.3	92.1	1.0	1.0	121	1.4
SMF78A	SMF78CA	78	86.7	95.8	1.0	1.0	126	1.4
SMF85A	SMF85CA	85	94.4	104	1.0	1.0	137	1.3
SMF90A	SMF90CA	90	100	111	1.0	1.0	146	1.2
SMF100A	SMF100CA	100	111	123	1.0	1.0	162	1.1
SMF110A	SMF110CA	110	122	135	1.0	1.0	177	1.0
SMF120A	SMF120CA	120	133	147	1.0	1.0	193	0.9
SMF130A	SMF130CA	130	144	159	1.0	1.0	209	0.8
SMF150A	SMF150CA	150	167	185	1.0	1.0	243	0.7
SMF160A	SMF160CA	160	178	197	1.0	1.0	259	0.7
SMF170A	SMF170CA	170	189	209	1.0	1.0	275	0.6



Fig.1 Peak Pulse Power Rating Curve

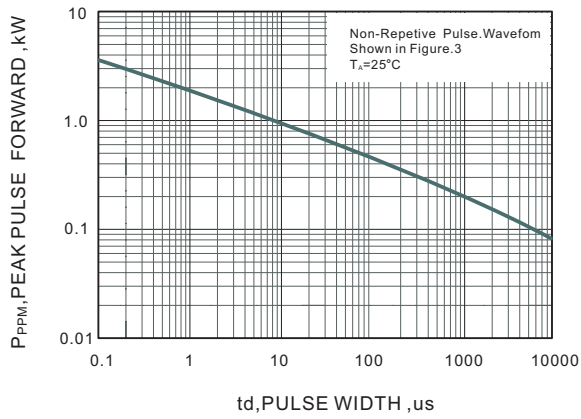


Fig.2 Forward Current Derating Curve

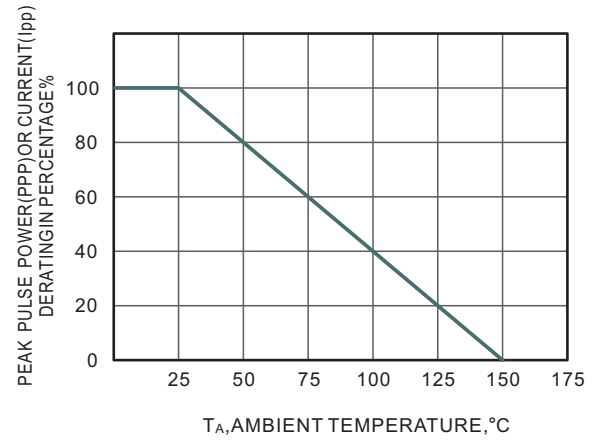


Fig.3 Pulse Waveform

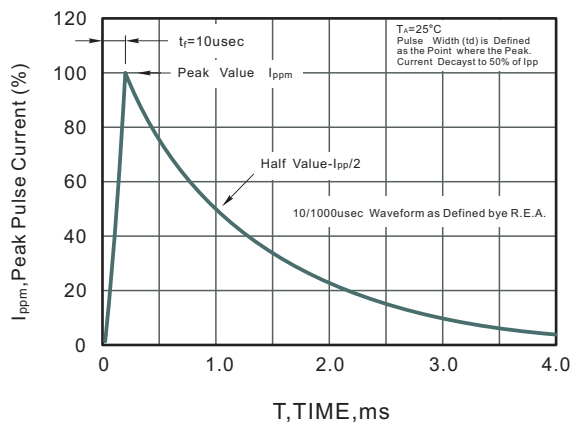


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

