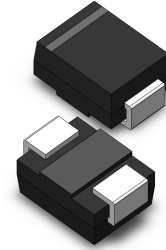




SM6T6.8A(CA) - SM6T440A(CA)

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR DIODE

VOLTAGE RANGE: 6.8- 440 V
POWER: 600Watts

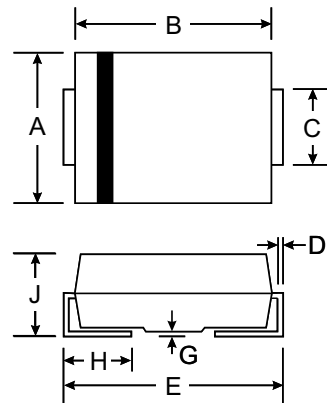


Features

- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Material: UL Flammability Classification Rating 94V-0

Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)



SMB(DO-214AA)		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.70
C	1.91	2.21
D	0.15	0.31
E	5.00	5.59
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

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

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above $T_A = 25^\circ\text{C}$) (Note 1)	P_{PK}	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I_{FSM}	100	A
Instantaneous Forward Voltage @ $I_{PP} = 35\text{A}$ (Notes 1, 2, & 3)	V_F	$V_{BR} < 100\text{V}$ 3.5 $V_{BR} \geq 100\text{V}$ 5.0	V V
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	$^\circ\text{C}$

- Notes:
1. Valid provided that terminals are kept at ambient temperature.
 2. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
 3. Unidirectional units only.

TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I _T	Breakdown Voltage Max. @ I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
(Uni)	(Bi)	V _{RWM} (V)	V _{BR MIN} (V)	V _{BR MAX} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
SM6T6.8	SM6T6.8C	5.50	6.12	7.48	10.0	10.8	55.6	1000.0
SM6T6.8A	SM6T6.8CA	5.80	6.45	7.14	10.0	10.5	57.1	1000.0
SM6T7.5	SM6T7.5C	6.05	6.75	8.25	10.0	11.7	51.3	500.0
SM6T7.5A	SM6T7.5CA	6.40	7.13	7.88	10.0	11.3	53.1	500.0
SM6T8.2	SM6T8.2C	6.63	7.38	9.02	10.0	12.5	48.0	200.0
SM6T8.2A	SM6T8.2CA	7.02	7.79	8.61	10.0	12.1	49.6	200.0
SM6T9.1	SM6T9.1C	7.37	8.19	10.0	1.0	13.8	43.5	50.0
SM6T9.1A	SM6T9.1CA	7.78	8.65	9.55	1.0	13.4	44.8	50.0
SM6T10	SM6T10C	8.10	9.00	11.0	1.0	15.0	40.0	10.0
SM6T10A	SM6T10CA	8.55	9.50	10.5	1.0	14.5	41.4	10.0
SM6T11	SM6T11C	8.92	9.90	12.1	1.0	16.2	37.0	5.0
SM6T11A	SM6T11CA	9.40	10.5	11.6	1.0	15.6	38.5	5.0
SM6T12	SM6T12C	9.72	10.8	13.2	1.0	17.3	34.7	5.0
SM6T12A	SM6T12CA	10.2	11.4	12.6	1.0	16.7	35.9	5.0
SM6T13	SM6T13C	10.5	11.7	14.3	1.0	19.0	31.6	5.0
SM6T13A	SM6T13CA	11.1	12.4	13.7	1.0	18.2	33.0	5.0
SM6T15	SM6T15C	12.1	13.5	16.5	1.0	22.0	27.3	5.0
SM6T15A	SM6T15CA	12.8	14.3	15.8	1.0	21.2	28.3	5.0
SM6T16	SM6T16C	12.9	14.4	17.6	1.0	23.5	25.5	5.0
SM6T16A	SM6T16CA	13.6	15.2	16.8	1.0	22.5	26.7	5.0
SM6T18	SM6T18C	14.5	16.2	19.8	1.0	26.5	22.6	5.0
SM6T18A	SM6T18CA	15.3	17.1	18.9	1.0	25.2	23.8	5.0
SM6T20	SM6T20C	16.2	18.0	22.0	1.0	29.1	20.6	5.0
SM6T20A	SM6T20CA	17.1	19.0	21.0	1.0	27.7	21.7	5.0
SM6T22	SM6T22C	17.8	19.8	24.2	1.0	31.9	18.8	5.0
SM6T22A	SM6T22CA	18.8	20.9	23.1	1.0	30.6	19.6	5.0
SM6T24	SM6T24C	19.4	21.6	26.4	1.0	34.7	17.3	5.0
SM6T24A	SM6T24CA	20.5	22.8	25.2	1.0	33.2	18.1	5.0
SM6T27	SM6T27C	21.8	24.3	29.7	1.0	39.1	15.3	5.0
SM6T27A	SM6T27CA	23.1	25.7	28.4	1.0	37.5	16.0	5.0
SM6T30	SM6T30C	24.3	27.0	33.0	1.0	43.5	13.8	5.0
SM6T30A	SM6T30CA	25.6	28.5	31.5	1.0	41.4	14.5	5.0
SM6T33	SM6T33C	26.8	29.7	36.3	1.0	47.7	12.6	5.0
SM6T33A	SM6T33CA	28.2	31.4	34.7	1.0	45.7	13.1	5.0
SM6T36	SM6T36C	29.1	32.4	39.6	1.0	52.0	11.5	5.0
SM6T36A	SM6T36CA	30.8	34.2	37.8	1.0	49.9	12.0	5.0
SM6T39	SM6T39C	31.6	35.1	42.9	1.0	56.4	10.6	5.0
SM6T39A	SM6T39CA	33.3	37.1	41.0	1.0	53.9	11.1	5.0
SM6T43	SM6T43C	34.8	38.7	47.3	1.0	61.9	9.7	5.0
SM6T43A	SM6T43CA	36.8	40.9	45.2	1.0	59.3	10.1	5.0
SM6T47	SM6T47C	38.1	42.3	51.7	1.0	67.8	8.8	5.0
SM6T47A	SM6T47CA	40.2	44.7	49.4	1.0	64.8	9.3	5.0
SM6T51	SM6T51C	41.3	45.9	56.1	1.0	73.5	8.2	5.0
SM6T51A	SM6T51CA	43.6	48.5	53.6	1.0	70.1	8.6	5.0
SM6T56	SM6T56C	45.4	50.4	61.6	1.0	80.5	7.5	5.0
SM6T56A	SM6T56CA	47.8	53.2	58.8	1.0	77.0	7.8	5.0
SM6T62	SM6T62C	50.2	55.8	68.2	1.0	89.0	6.7	5.0
SM6T62A	SM6T62CA	53.0	58.9	65.1	1.0	85.0	7.1	5.0
SM6T68	SM6T68C	55.1	61.2	74.8	1.0	98.0	6.1	5.0
SM6T68A	SM6T68CA	58.1	64.6	71.4	1.0	92.0	6.5	5.0
SM6T75	SM6T75C	60.7	67.5	82.5	1.0	108	5.6	5.0
SM6T75A	SM6T75CA	64.1	71.3	78.8	1.0	103	5.8	5.0



TYPE		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I _T	Breakdown Voltage Max. @ I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
(Uni)	(Bi)	V _{RWM} (V)	V _{BR} MIN(V)	V _{BR} MAX (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
SM6T82	SM6T82C	66.4	73.8	90.2	1.0	118	5.1	5.0
SM6T82A	SM6T82CA	70.1	77.9	86.1	1.0	113	5.3	5.0
SM6T91	SM6T91C	73.7	81.9	100	1.0	131	4.6	5.0
SM6T91A	SM6T91CA	77.8	86.5	95.5	1.0	125	4.8	5.0
SM6T100	SM6T100C	81.0	90.0	110	1.0	144	4.2	5.0
SM6T100A	SM6T100CA	85.5	95.0	105	1.0	137	4.4	5.0
SM6T110	SM6T110C	89.2	99.0	121	1.0	158	3.8	5.0
SM6T110A	SM6T110CA	94.0	105	116	1.0	152	3.9	5.0
SM6T120	SM6T120C	97.2	108	132	1.0	173	3.5	5.0
SM6T120A	SM6T120CA	102	114	126	1.0	165	3.6	5.0
SM6T130	SM6T130C	105	117	143	1.0	187	3.2	5.0
SM6T130A	SM6T130CA	111	124	137	1.0	179	3.4	5.0
SM6T150	SM6T150C	121	135	165	1.0	215	2.8	5.0
SM6T150A	SM6T150CA	128	143	158	1.0	207	2.9	5.0
SM6T160	SM6T160C	130	144	176	1.0	230	2.6	5.0
SM6T160A	SM6T160CA	136	152	168	1.0	219	2.7	5.0
SM6T170	SM6T170C	138	153	187	1.0	244	2.5	5.0
SM6T170A	SM6T170CA	145	162	179	1.0	234	2.6	5.0
SM6T180	SM6T180C	146	162	198	1.0	258	2.3	5.0
SM6T180A	SM6T180CA	154	171	189	1.0	246	2.4	5.0
SM6T200	SM6T200C	162	180	220	1.0	287	2.1	5.0
SM6T200A	SM6T200CA	171	190	210	1.0	274	2.2	5.0
SM6T220	SM6T220C	175	198	242	1.0	344	1.7	5.0
SM6T220A	SM6T220CA	185	209	231	1.0	328	1.8	5.0
SM6T250	SM6T250C	202	225	275	1.0	360	1.7	5.0
SM6T250A	SM6T250CA	214	237	263	1.0	344	1.7	5.0
SM6T300	SM6T300C	243	270	330	1.0	430	1.4	5.0
SM6T300A	SM6T300CA	256	285	315	1.0	414	1.4	5.0
SM6T350	SM6T350C	284	315	385	1.0	504	1.2	5.0
SM6T350A	SM6T350CA	300	333	368	1.0	482	1.2	5.0
SM6T400	SM6T400C	324	360	440	1.0	574	1.0	5.0
SM6T400A	SM6T400CA	342	380	420	1.0	548	1.1	5.0
SM6T440	SM6T440C	356	396	484	1.0	631	0.95	5.0
SM6T440A	SM6T440CA	376	418	462	1.0	602	1.0	5.0



Ratings and Characteristic Curves $T_A = 25^\circ\text{C}$ unless otherwise noted

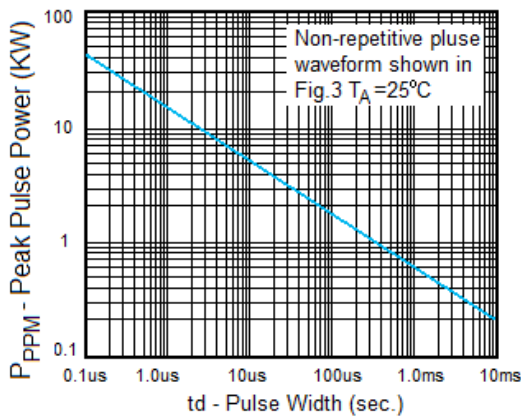


Fig. 1 Peak Pulse Power Rating

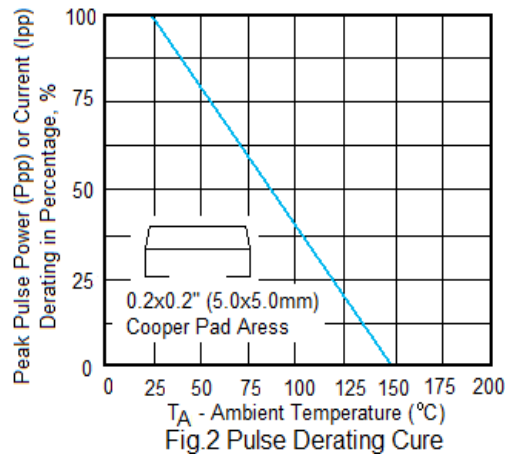


Fig. 2 Pulse Derating Curve

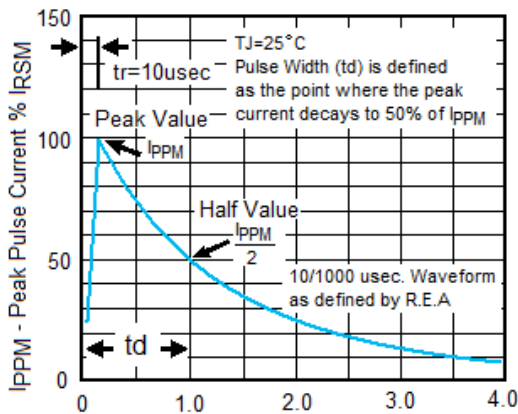


Fig. 3 Pulse Waveform

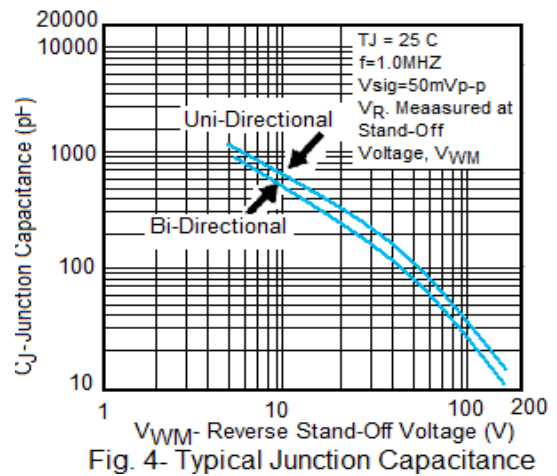


Fig. 4- Typical Junction Capacitance