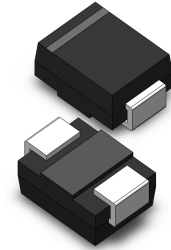


# SM6T6.8A(CA) - SM6T440A(CA)

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

**VOLTAGE RANGE: 6.8- 440 V**

**POWER: 600Watts**

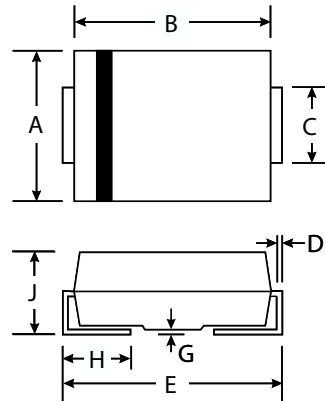


### Features

- 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: DO-214AB(SMB), Transfer Molded Epoxy
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity Indicator: Cathode Band
- (Note: Bi-directional devices have no polarity indicator.)
- Weight: 0.1 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<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above T <sub>A</sub> = 25°C) (Note 1)	P <sub>PK</sub>	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I <sub>FSM</sub>	100	A
Instantaneous Forward Voltage @ I <sub>PP</sub> = 35A V <sub>BR</sub> < 100V (Notes 1, 2, & 3)	V <sub>F</sub>	3.5 5.0	V V
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-55 to +150	°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		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
(Uni)	(Bi)	(Uni)	(Bi)	V <sub>RWM</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> ( $\mu$ A)
SM6T6.8	SM6T6.8C	M6.8	M6.8C	5.50	6.12	7.48	10.0	10.8	55.6	1000.0
SM6T6.8A	SM6T6.8CA	M6.8A	M6.8CA	5.80	6.45	7.14	10.0	10.5	57.1	1000.0
SM6T7.5	SM6T7.5C	M7.5	M7.5C	6.05	6.75	8.25	10.0	11.7	51.3	500.0
SM6T7.5A	SM6T7.5CA	M7.5A	M7.5CA	6.40	7.13	7.88	10.0	11.3	53.1	500.0
SM6T8.2	SM6T8.2C	M8.2	M8.2C	6.63	7.38	9.02	10.0	12.5	48.0	200.0
SM6T8.2A	SM6T8.2CA	M8.2A	M8.2CA	7.02	7.79	8.61	10.0	12.1	49.6	200.0
SM6T9.1	SM6T9.1C	M9.1	M9.1C	7.37	8.19	10.0	1.0	13.8	43.5	50.0
SM6T9.1A	SM6T9.1CA	M9.1A	M9.1CA	7.78	8.65	9.55	1.0	13.4	44.8	50.0
SM6T10	SM6T10C	M10	M10C	8.10	9.00	11.0	1.0	15.0	40.0	10.0
SM6T10A	SM6T10CA	M10A	M10CA	8.55	9.50	10.5	1.0	14.5	41.4	10.0
SM6T11	SM6T11C	M11	M11C	8.92	9.90	12.1	1.0	16.2	37.0	5.0
SM6T11A	SM6T11CA	M11A	M11CA	9.40	10.5	11.6	1.0	15.6	38.5	5.0
SM6T12	SM6T12C	M12	M12C	9.72	10.8	13.2	1.0	17.3	34.7	5.0
SM6T12A	SM6T12CA	M12A	M12CA	10.2	11.4	12.6	1.0	16.7	35.9	5.0
SM6T13	SM6T13C	M13	M13C	10.5	11.7	14.3	1.0	19.0	31.6	5.0
SM6T13A	SM6T13CA	M13A	M13CA	11.1	12.4	13.7	1.0	18.2	33.0	5.0
SM6T15	SM6T15C	M15	M15C	12.1	13.5	16.5	1.0	22.0	27.3	5.0
SM6T15A	SM6T15CA	M15A	M15CA	12.8	14.3	15.8	1.0	21.2	28.3	5.0
SM6T16	SM6T16C	M16	M16C	12.9	14.4	17.6	1.0	23.5	25.5	5.0
SM6T16A	SM6T16CA	M16A	M16CA	13.6	15.2	16.8	1.0	22.5	26.7	5.0
SM6T18	SM6T18C	M18	M18C	14.5	16.2	19.8	1.0	26.5	22.6	5.0
SM6T18A	SM6T18CA	M18A	M18CA	15.3	17.1	18.9	1.0	25.2	23.8	5.0
SM6T20	SM6T20C	M20	M20C	16.2	18.0	22.0	1.0	29.1	20.6	5.0
SM6T20A	SM6T20CA	M20A	M20CA	17.1	19.0	21.0	1.0	27.7	21.7	5.0
SM6T22	SM6T22C	M22	M22C	17.8	19.8	24.2	1.0	31.9	18.8	5.0
SM6T22A	SM6T22CA	M22A	M22CA	18.8	20.9	23.1	1.0	30.6	19.6	5.0
SM6T24	SM6T24C	M24	M24C	19.4	21.6	26.4	1.0	34.7	17.3	5.0
SM6T24A	SM6T24CA	M24A	M24CA	20.5	22.8	25.2	1.0	33.2	18.1	5.0
SM6T27	SM6T27C	M27	M27C	21.8	24.3	29.7	1.0	39.1	15.3	5.0
SM6T27A	SM6T27CA	M27A	M27CA	23.1	25.7	28.4	1.0	37.5	16.0	5.0
SM6T30	SM6T30C	M30	M30C	24.3	27.0	33.0	1.0	43.5	13.8	5.0
SM6T30A	SM6T30CA	M30A	M30CA	25.6	28.5	31.5	1.0	41.4	14.5	5.0
SM6T33	SM6T33C	M33	M33C	26.8	29.7	36.3	1.0	47.7	12.6	5.0
SM6T33A	SM6T33CA	M33A	M33CA	28.2	31.4	34.7	1.0	45.7	13.1	5.0
SM6T36	SM6T36C	M36	M36C	29.1	32.4	39.6	1.0	52.0	11.5	5.0
SM6T36A	SM6T36CA	M36A	M36CA	30.8	34.2	37.8	1.0	49.9	12.0	5.0
SM6T39	SM6T39C	M39	M39C	31.6	35.1	42.9	1.0	56.4	10.6	5.0
SM6T39A	SM6T39CA	M39A	M39CA	33.3	37.1	41.0	1.0	53.9	11.1	5.0
SM6T43	SM6T43C	M43	M43C	34.8	38.7	47.3	1.0	61.9	9.7	5.0
SM6T43A	SM6T43CA	M43A	M43CA	36.8	40.9	45.2	1.0	59.3	10.1	5.0
SM6T47	SM6T47C	M47	M47C	38.1	42.3	51.7	1.0	67.8	8.8	5.0
SM6T47A	SM6T47CA	M47A	M47CA	40.2	44.7	49.4	1.0	64.8	9.3	5.0
SM6T51	SM6T51C	M51	M51C	41.3	45.9	56.1	1.0	73.5	8.2	5.0
SM6T51A	SM6T51CA	M51A	M51CA	43.6	48.5	53.6	1.0	70.1	8.6	5.0
SM6T56	SM6T56C	M56	M56C	45.4	50.4	61.6	1.0	80.5	7.5	5.0
SM6T56A	SM6T56CA	M56A	M56CA	47.8	53.2	58.8	1.0	77.0	7.8	5.0
SM6T62	SM6T62C	M62	M62C	50.2	55.8	68.2	1.0	89.0	6.7	5.0
SM6T62A	SM6T62CA	M62A	M62CA	53.0	58.9	65.1	1.0	85.0	7.1	5.0
SM6T68	SM6T68C	M68	M68C	55.1	61.2	74.8	1.0	98.0	6.1	5.0
SM6T68A	SM6T68CA	M68A	M68CA	58.1	64.6	71.4	1.0	92.0	6.5	5.0
SM6T75	SM6T75C	M75	M75C	60.7	67.5	82.5	1.0	108	5.6	5.0
SM6T75A	SM6T75CA	M75A	M75CA	64.1	71.3	78.8	1.0	103	5.8	5.0



TYPE		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
(Uni)	(Bi)	(Uni)	(Bi)	V <sub>RWM</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
SM6T82	SM6T82C	M82	M82C	66.4	73.8	90.2	1.0	118	5.1	5.0
SM6T82A	SM6T82CA	M82A	M82CA	70.1	77.9	86.1	1.0	113	5.3	5.0
SM6T91	SM6T91C	M91	M91C	73.7	81.9	100	1.0	131	4.6	5.0
SM6T91A	SM6T91CA	M91A	M91CA	77.8	86.5	95.5	1.0	125	4.8	5.0
SM6T100	SM6T100C	M100	M100C	81.0	90.0	110	1.0	144	4.2	5.0
SM6T100A	SM6T100CA	M100A	M100CA	85.5	95.0	105	1.0	137	4.4	5.0
SM6T110	SM6T110C	M110	M110C	89.2	99.0	121	1.0	158	3.8	5.0
SM6T110A	SM6T110CA	M110A	M110CA	94.0	105	116	1.0	152	3.9	5.0
SM6T120	SM6T120C	M120	M120C	97.2	108	132	1.0	173	3.5	5.0
SM6T120A	SM6T120CA	M120A	M120CA	102	114	126	1.0	165	3.6	5.0
SM6T130	SM6T130C	M130	M130C	105	117	143	1.0	187	3.2	5.0
SM6T130A	SM6T130CA	M130A	M130CA	111	124	137	1.0	179	3.4	5.0
SM6T150	SM6T150C	M150	M150C	121	135	165	1.0	215	2.8	5.0
SM6T150A	SM6T150CA	M150A	M150CA	128	143	158	1.0	207	2.9	5.0
SM6T160	SM6T160C	M160	M160C	130	144	176	1.0	230	2.6	5.0
SM6T160A	SM6T160CA	M160A	M160CA	136	152	168	1.0	219	2.7	5.0
SM6T170	SM6T170C	M170	M170C	138	153	187	1.0	244	2.5	5.0
SM6T170A	SM6T170CA	M170A	M170CA	145	162	179	1.0	234	2.6	5.0
SM6T180	SM6T180C	M180	M180C	146	162	198	1.0	258	2.3	5.0
SM6T180A	SM6T180CA	M180A	M180CA	154	171	189	1.0	246	2.4	5.0
SM6T200	SM6T200C	M200	M200C	162	180	220	1.0	287	2.1	5.0
SM6T200A	SM6T200CA	M200A	M200CA	171	190	210	1.0	274	2.2	5.0
SM6T220	SM6T220C	M220	M220C	175	198	242	1.0	344	1.7	5.0
SM6T220A	SM6T220CA	M220A	M220CA	185	209	231	1.0	328	1.8	5.0
SM6T250	SM6T250C	M250	M250C	202	225	275	1.0	360	1.7	5.0
SM6T250A	SM6T250CA	M250A	M250CA	214	237	263	1.0	344	1.7	5.0
SM6T300	SM6T300C	M300	M300C	243	270	330	1.0	430	1.4	5.0
SM6T300A	SM6T300CA	M300A	M300CA	256	285	315	1.0	414	1.4	5.0
SM6T350	SM6T350C	M350	M350C	284	315	385	1.0	504	1.2	5.0
SM6T350A	SM6T350CA	M350A	M350CA	300	333	368	1.0	482	1.2	5.0
SM6T400	SM6T400C	M400	M400C	324	360	440	1.0	574	1.0	5.0
SM6T400A	SM6T400CA	M400A	M400CA	342	380	420	1.0	548	1.1	5.0
SM6T440	SM6T440C	M440	M440C	356	396	484	1.0	631	0.95	5.0
SM6T440A	SM6T440CA	M440A	M440CA	376	418	462	1.0	602	1.0	5.0



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

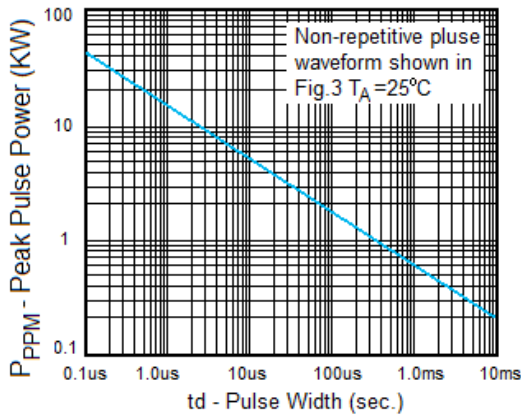


Fig. 1 Peak Pulse Power Rating

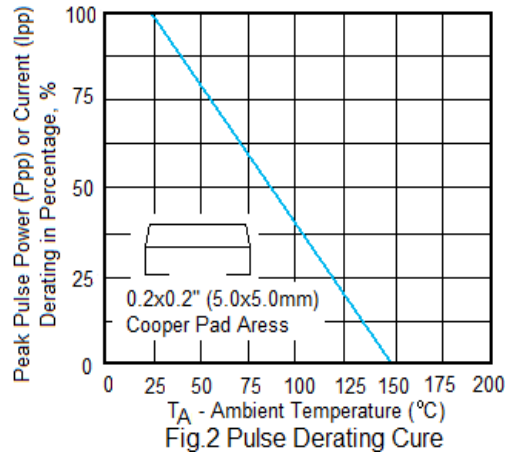


Fig. 2 Pulse Derating Curve

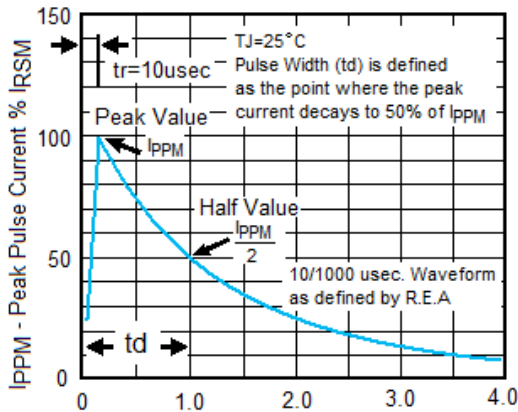


Fig. 3 Pulse Waveform

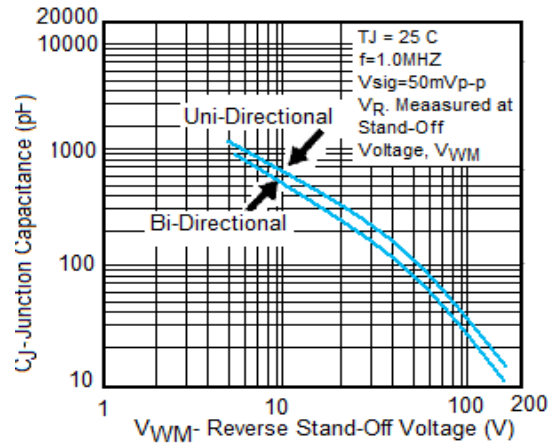


Fig. 4- Typical Junction Capacitance