SM4T6.8A(CA) - SM4T440A(CA)

SURFACE MOUNT TRANSIENT VOLTAGE SUPPESSOR DIODE

VOLTAGE RANGE: 6.8 - 440 V
POWER: 400Watts



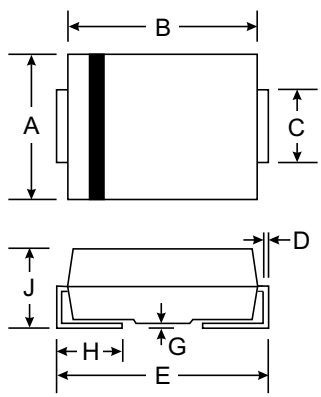
Features

- 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: SMA/DO-214AC, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.064 grams (approx.)

RoHS COMPLIANT



SMA(DO-214AC)		
Dim	**Min**	**Max**
A	2.29	2.92
B	4.00	4.60
C	1.27	1.63
D	0.15	0.31
E	4.80	5.59
G	0.10	0.20
H	0.76	1.52
J	2.01	2.62
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above T_A = 25°C) (Note 1)	P_{PK}	400	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I_{FSM}	40	A
Instantaneous Forward Voltage @ I_{PP} = 35A (Notes 1, 2, & 3)	V_F	3.5	V
Operating and Storage Temperature Range	T_j, T_{STG}	-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		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)
SM4T6.8	SM4T6.8C	5.50	6.12	7.48	10	10.8	38.0	1000.0
SM4T6.8A	SM4T6.8CA	5.80	6.45	7.14	10	10.5	40.0	1000.0
SM4T7.5	SM4T7.5C	6.05	6.75	8.25	10	11.7	36.0	500.0
SM4T7.5A	SM4T7.5CA	6.40	7.13	7.88	10	11.3	37.0	500.0
SM4T8.2	SM4T8.2C	6.63	7.38	9.02	10	12.5	33.0	200.0
SM4T8.2A	SM4T8.2CA	7.02	7.79	8.61	10	12.1	35.0	200.0
SM4T9.1	SM4T9.1C	7.37	8.19	10.0	1.0	13.8	30.0	200.0
SM4T9.1A	SM4T9.1CA	7.78	8.65	9.55	1.0	13.4	31.0	50.0
SM4T10	SM4T10C	8.10	9.00	11.0	1.0	15.0	28.0	10.0
SM4T10A	SM4T10CA	8.55	9.50	10.5	1.0	14.5	29.0	10.0
SM4T11	SM4T11C	8.92	9.90	12.1	1.0	16.2	26.0	5.0
SM4T11A	SM4T11CA	9.40	10.5	11.6	1.0	15.6	27.0	5.0
SM4T12	SM4T12C	9.72	10.8	13.2	1.0	17.3	24.0	5.0
SM4T12A	SM4T12CA	10.2	11.4	12.6	1.0	16.7	25.0	5.0
SM4T13	SM4T13C	10.5	11.7	14.3	1.0	19.0	22.0	5.0
SM4T13A	SM4T13CA	11.1	12.4	13.7	1.0	18.2	23.0	5.0
SM4T15	SM4T15C	12.1	13.5	16.5	1.0	22.0	19.0	5.0
SM4T15A	SM4T15CA	12.8	14.3	15.8	1.0	21.2	20.0	5.0
SM4T16	SM4T16C	12.9	14.4	17.6	1.0	23.5	18.0	5.0
SM4T16A	SM4T16CA	13.6	15.2	16.8	1.0	22.5	19.0	5.0
SM4T18	SM4T18C	14.5	16.2	19.8	1.0	26.5	16.0	5.0
SM4T18A	SM4T18CA	15.3	17.1	18.9	1.0	25.2	17.0	5.0
SM4T20	SM4T20C	16.2	18.0	22.0	1.0	29.1	14.0	5.0
SM4T20A	SM4T20CA	17.1	19.0	21.0	1.0	27.7	15.0	5.0
SM4T22	SM4T22C	17.8	19.8	24.2	1.0	31.9	13.0	5.0
SM4T22A	SM4T22CA	18.8	20.9	23.1	1.0	30.6	14.0	5.0
SM4T24	SM4T24C	19.4	21.6	26.4	1.0	34.7	12.0	5.0
SM4T24A	SM4T24CA	20.5	22.8	25.2	1.0	33.2	13.0	5.0
SM4T27	SM4T27C	21.8	24.3	29.7	1.0	39.1	11.0	5.0
SM4T27A	SM4T27CA	23.1	25.7	28.4	1.0	37.5	11.2	5.0
SM4T30	SM4T30C	24.3	27.0	33.0	1.0	43.5	10.0	5.0
SM4T30A	SM4T30CA	25.6	28.5	31.5	1.0	41.4	10.0	5.0
SM4T33	SM4T33C	26.8	29.7	36.3	1.0	47.7	9.0	5.0
SM4T33A	SM4T33CA	28.2	31.4	34.7	1.0	45.7	9.0	5.0
SM4T36	SM4T36C	29.1	32.4	39.6	1.0	52.0	8.0	5.0
SM4T36A	SM4T36CA	30.8	34.2	37.8	1.0	49.9	8.4	5.0
SM4T39	SM4T39C	31.6	35.1	42.9	1.0	56.4	7.4	5.0
SM4T39A	SM4T39CA	33.3	37.1	41.0	1.0	53.9	7.8	5.0
SM4T43	SM4T43C	34.8	38.7	47.3	1.0	61.9	6.8	5.0
SM4T43A	SM4T43CA	36.8	40.9	45.2	1.0	59.3	7.1	5.0
SM4T47	SM4T47C	38.1	42.3	51.7	1.0	67.8	6.2	5.0
SM4T47A	SM4T47CA	40.8	44.7	49.4	1.0	64.8	5.0	5.0
SM4T51	SM4T51C	41.3	45.9	56.1	1.0	73.5	5.7	5.0
SM4T51A	SM4T51CA	43.6	48.5	53.6	1.0	70.1	6.0	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)
SM4T56	SM4T56C	45.4	50.4	61.6	1.0	80.5	5.2	5.0
SM4T56A	SM4T56CA	47.8	53.2	58.8	1.0	77.0	5.5	5.0
SM4T62	SM4T62C	50.2	55.8	68.2	1.0	89.0	4.7	5.0
SM4T62A	SM4T62CA	53.0	58.9	65.1	1.0	85.0	5.0	5.0
SM4T68	SM4T68C	55.1	61.2	74.8	1.0	98.0	4.3	5.0
SM4T68A	SM4T68CA	58.1	64.6	71.4	1.0	92.0	4.6	5.0
SM4T75	SM4T75C	60.7	67.5	82.5	1.0	108	3.9	5.0
SM4T75A	SM4T75CA	64.1	71.3	78.8	1.0	103	4.1	5.0
SM4T82	SM4T82C	66.4	73.8	90.2	1.0	118	3.6	5.0
SM4T82A	SM4T82CA	70.4	77.9	86.1	1.0	113	3.7	5.0
SM4T91	SM4T91C	73.7	81.9	100	1.0	131	3.2	5.0
SM4T91A	SM4T91CA	77.8	86.5	95.5	1.0	125	3.4	5.0
SM4T100	SM4T100C	81.0	90.0	110	1.0	144	2.9	5.0
SM4T100A	SM4T100CA	85.5	95.0	105	1.0	137	3.1	5.0
SM4T110	SM4T110C	89.2	99.0	121	1.0	158	2.7	5.0
SM4T110A	SM4T110CA	94.0	105	116	1.0	152	2.8	5.0
SM4T120	SM4T120C	97.2	108	132	1.0	173	2.4	5.0
SM4T120A	SM4T120CA	102	114	126	1.0	165	2.5	5.0
SM4T130	SM4T130C	105	117	143	1.0	187	2.2	5.0
SM4T130A	SM4T130CA	111	124	137	1.0	179	2.3	5.0
SM4T150	SM4T150C	121	135	165	1.0	215	2.0	5.0
SM4T150A	SM4T150CA	128	143	158	1.0	207	2.0	5.0
SM4T160	SM4T160C	130	144	176	1.0	230	1.8	5.0
SM4T160A	SM4T160CA	136	152	168	1.0	219	1.9	5.0
SM4T170	SM4T170C	138	153	187	1.0	244	1.7	5.0
SM4T170A	SM4T170CA	145	162	179	1.0	234	1.8	5.0
SM4T180	SM4T180C	146	162	198	1.0	258	1.6	5.0
SM4T180A	SM4T180CA	154	171	189	1.0	246	1.7	5.0
SM4T200	SM4T200C	162	180	220	1.0	287	1.5	5.0
SM4T200A	SM4T200CA	171	190	210	1.0	274	1.53	5.0
SM4T220	SM4T220C	175	198	242	1.0	344	1.16	5.0
SM4T220A	SM4T220CA	185	209	231	1.0	328	1.22	5.0
SM4T250	SM4T250C	202	225	275	1.0	360	1.1	5.0
SM4T250A	SM4T250CA	214	237	263	1.0	344	1.16	5.0
SM4T300	SM4T300C	243	270	330	1.0	430	0.93	5.0
SM4T300A	SM4T300CA	256	285	315	1.0	414	0.97	5.0
SM4T350	SM4T350C	284	315	385	1.0	504	0.79	5.0
SM4T350A	SM4T350CA	300	333	368	1.0	482	0.83	5.0
SM4T400	SM4T400C	324	360	440	1.0	574	0.70	5.0
SM4T400A	SM4T400CA	342	380	420	1.0	548	0.73	5.0
SM4T440	SM4T440C	356	396	484	1.0	631	0.63	5.0
SM4T440A	SM4T440CA	376	418	462	1.0	602	0.65	5.0

Ratings and Characteristic Curves T_A=25°C unless otherwise noted

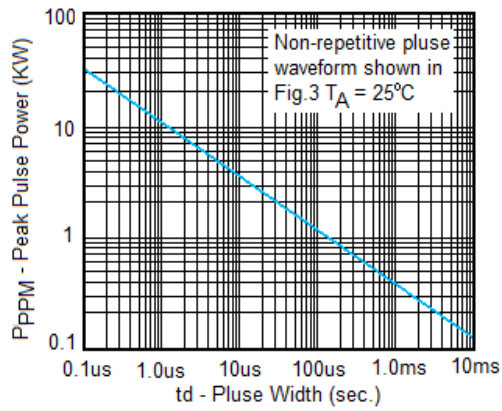


Fig. 1 Peak Pulse Power Rating

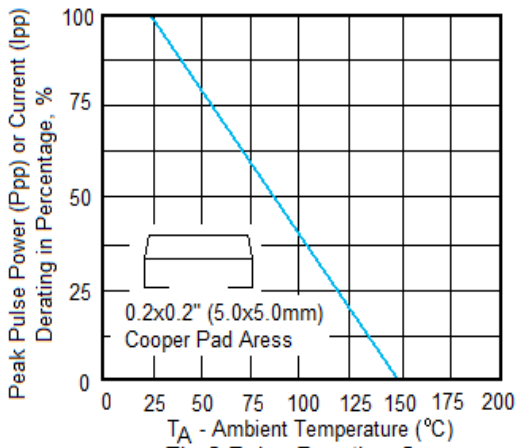


Fig.2 Pulse Derating Cure

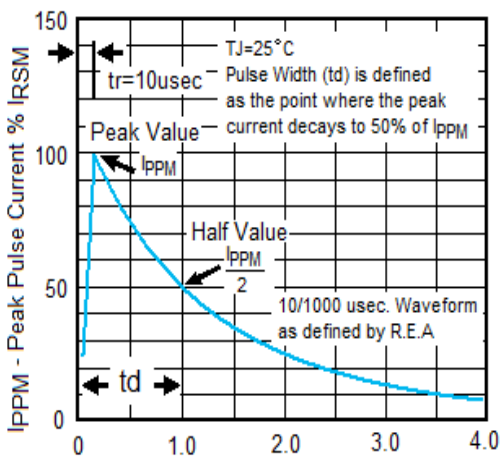


Fig.3 Pulse Waveform

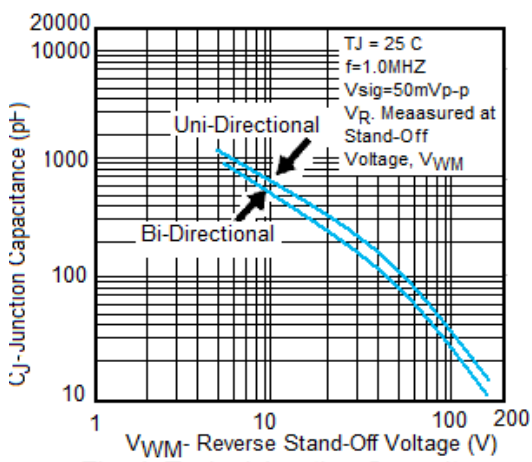


Fig. 4- Typical Junction Capacitance