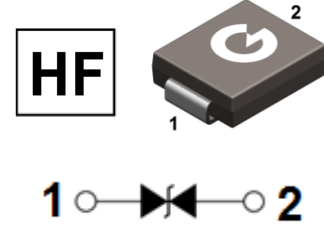


Transient Voltage Suppressor

SMCJ5.0CA - SMCJ440CA

Features

- Low profile package with built-in strain relief for SMT applications
- Low incremental surge resistance, excellent clamping capability
- 1500W peak pulse power capability with very fast response time
- High temperature soldering guaranteed: 260°C / 10s at terminals
- Bi-directional applications
- RoHS compliant with Halogen-free



Mechanical Data

- Case: SMC molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated; solderable per MIL- STD-202, Method 208

Maximum Ratings (@T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000μs waveform *1	P _{PPM}	1500	W
Peak pulse current with a 10/1000μs waveform *1	I _{PP}	see E. Characteristics	A
Typical thermal resistance *2	R _{θJA}	100	°C/W
	R _{θJL}	20	
Operating junction and storage temperature range	T _J , T _{STG}	-55 ~ +150	°C

Note *1: Non-repetitive current pulses, per Fig. 3 and derated above T_A = 25°C

Note *2: Mounted on minimum recommended pad layout

Transient Voltage Suppressor

SMCJ5.0CA - SMCJ440CA

Electrical Characteristics (@T_A = 25°C unless otherwise specified)

Type	Breakdown Voltage V _{BR} @I _T		Test Current	Reverse Standoff Voltage	Max. Reverse Leakage@ V _{RWM}	Max. Peak Pulse Current	Max. Clamping Voltage @I _{PP}
	V		I _T	V _{RWM}	I _R	I _{PP}	V _C
	Min	Max	mA	V	uA	A	V
SMCJ5.0CA	6.4	7.07	10	5	1000	163	9.2
SMCJ6.0CA	6.67	7.37	10	6	1000	145.6	10.3
SMCJ6.5CA	7.22	7.98	10	6.5	500	133.9	11.2
SMCJ6.8CA	7.56	8.35	10	6.8	500	136	12
SMCJ7.0CA	7.78	8.6	10	7	200	125	12
SMCJ7.5CA	8.33	9.21	1	7.5	100	116.3	12.9
SMCJ8.0CA	8.89	9.83	1	8	50	110.3	13.6
SMCJ8.5CA	9.44	10.4	1	8.5	20	104.2	14.4
SMCJ9.0CA	10	11.1	1	9	10	97.4	15.4
SMCJ10CA	11.1	12.3	1	10	5	88.2	17
SMCJ11CA	12.2	13.5	1	11	1	82.4	18.2
SMCJ12CA	13.3	14.7	1	12	1	75.4	19.9
SMCJ13CA	14.4	15.9	1	13	1	69.8	21.5
SMCJ14CA	15.6	17.2	1	14	1	64.7	23.2
SMCJ15CA	16.7	18.5	1	15	1	61.5	24.4
SMCJ16CA	17.8	19.7	1	16	1	57.7	26
SMCJ17CA	18.9	20.9	1	17	1	54.3	27.6
SMCJ18CA	20	22.1	1	18	1	51.4	29.2
SMCJ20CA	22.2	24.5	1	20	1	46.3	32.4
SMCJ22CA	24.4	26.9	1	22	1	42.3	35.5
SMCJ24CA	26.7	29.5	1	24	1	38.6	38.9
SMCJ26CA	28.9	31.9	1	26	1	35.6	42.1
SMCJ27CA	30	33.1	1	27	1	34.4	43.6
SMCJ28CA	31.1	34.4	1	28	1	33	45.4
SMCJ30CA	33.3	36.8	1	30	1	31	48.4
SMCJ33CA	36.7	40.6	1	33	1	28.1	53.3
SMCJ36CA	40	44.2	1	36	1	25.8	58.1
SMCJ40CA	44.4	49.1	1	40	1	23.3	64.5
SMCJ43CA	47.8	52.8	1	43	1	21.6	69.4
SMCJ45CA	50	55.3	1	45	1	20.6	72.7

Transient Voltage Suppressor

SMCJ5.0CA - SMCJ440CA

Type	Breakdown Voltage $V_{BR}@I_T$		Test Current	Reverse Standoff Voltage	Max. Reverse Leakage@ V_{RWM}	Max. Peak Pulse Current	Max. Clamping Voltage @ I_{PP}
	V		I_T	V_{RWM}	I_R	I_{PP}	V_C
	Min	Max	mA	V	uA	A	V
SMCJ48CA	53.3	58.9	1	48	1	19.4	77.4
SMCJ51CA	56.7	62.7	1	51	1	18.2	82.4
SMCJ54CA	60	66.3	1	54	1	17.2	87.1
SMCJ58CA	64.4	71.2	1	58	1	16	93.6
SMCJ60CA	66.7	73.7	1	60	1	15.5	96.8
SMCJ64CA	71.1	78.6	1	64	1	14.6	103
SMCJ68CA	75.5	83.5	1	68	1	13.7	109
SMCJ70CA	77.8	86	1	70	1	13.3	113
SMCJ75CA	83.3	92.1	1	75	1	12.4	121
SMCJ78CA	86.7	95.8	1	78	1	11.9	126
SMCJ85CA	94.4	104	1	85	1	10.9	137
SMCJ90CA	100	111	1	90	1	10.3	146
SMCJ100CA	111	123	1	100	1	9.3	162
SMCJ110CA	122	135	1	110	1	8.5	177
SMCJ120CA	133	147	1	120	1	7.8	193
SMCJ130CA	144	159	1	130	1	7.2	209
SMCJ150CA	167	185	1	150	1	6.2	243
SMCJ160CA	178	197	1	160	1	5.8	259
SMCJ170CA	189	209	1	170	1	5.5	275
SMCJ188CA	209	231	1	188	1	4.6	328
SMCJ200CA	222	246	1	200	1	4.6	323
SMCJ220CA	245	270	1	220	1	4.2	355
SMCJ240CA	267	295	1	240	1	3.9	388
SMCJ250CA	278	307	1	250	1	3.7	404
SMCJ270CA	300	331	1	270	1	3.4	436
SMCJ300CA	333	368	1	300	1	3.1	485
SMCJ350CA	389	429	1	350	1	2.7	566
SMCJ360CA	400	442	1	360	1	2.6	582
SMCJ380CA	422	466	1	380	1	2.5	615
SMCJ400CA	445	491	1	400	1	2.3	646
SMCJ440CA	489	540	1	440	1	2.1	711

Transient Voltage Suppressor

SMCJ5.0CA - SMCJ440CA

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

Fig.1 Peak Pulse Power Rating Curve

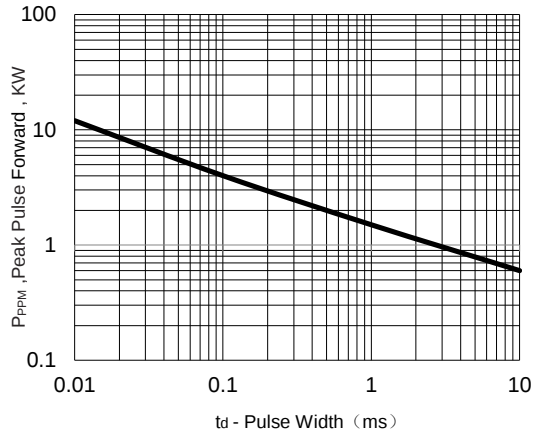


Fig.2 DERATING CURVE

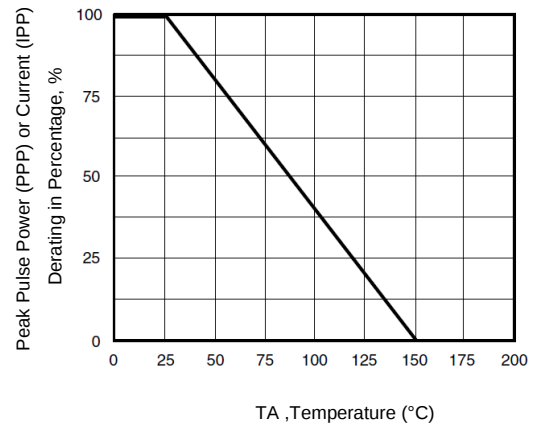
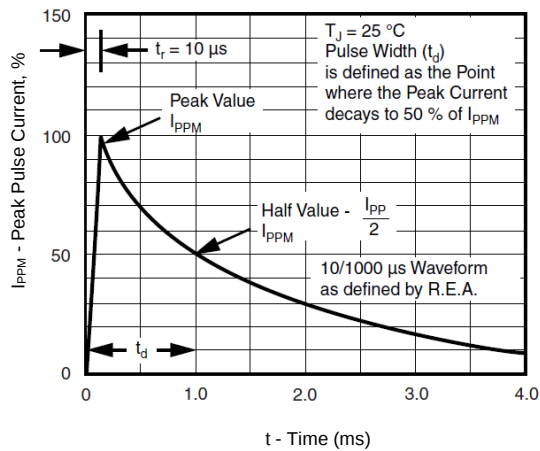


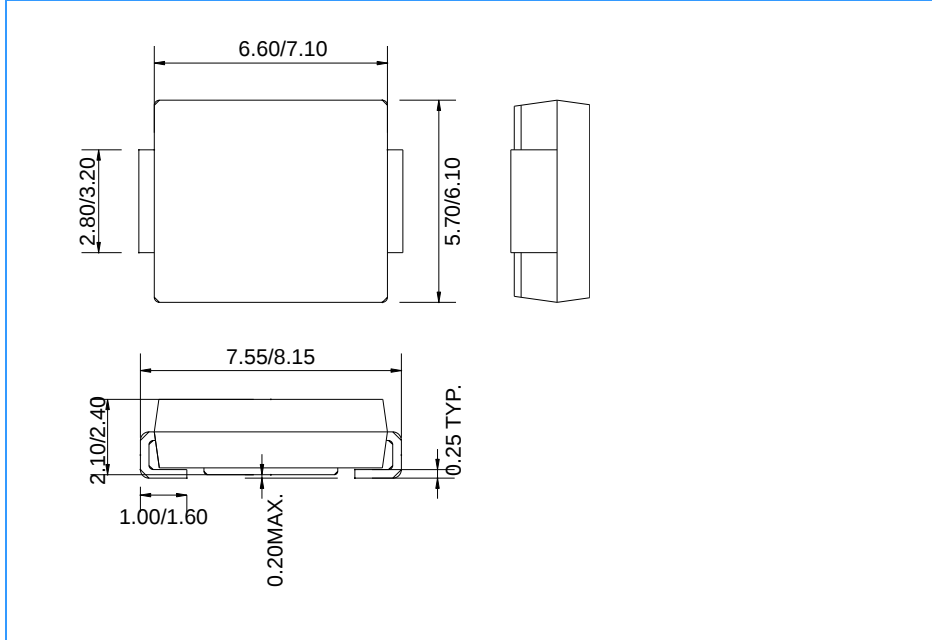
Fig.3 Pulse Waveform



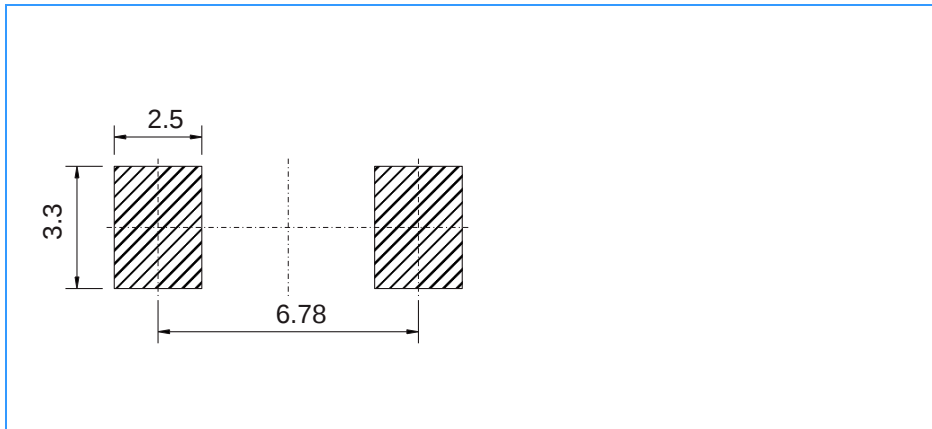
Transient Voltage Suppressor

SMCJ5.0CA - SMCJ440CA

Package Outline Dimensions (unit:mm)



Mounting Pad Layout (unit:mm)



Ordering Information

Part Number	Package	Shipping Quantity
SMCJ5.0CA - SMCJ440CA	SMC	3000 pcs / Tape & Reel