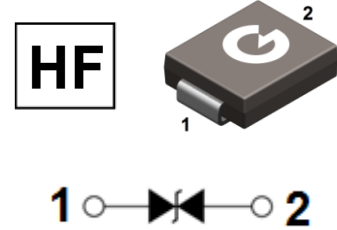


Transient Voltage Suppressor

TSMCJ5.0CA - TSMCJ440CA

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
- Qualified to AEC-Q101 Standards



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(FIG.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

TSMCJ5.0CA - TSMCJ440CA

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
TSMCJ5.0CA	6.4	7.07	10	5	1000	163	9.2
TSMCJ6.0CA	6.67	7.37	10	6	1000	145.6	10.3
TSMCJ6.5CA	7.22	7.98	10	6.5	500	133.9	11.2
TSMCJ6.8CA	7.56	8.35	10	6.8	500	136	12
TSMCJ7.0CA	7.78	8.6	10	7	200	125	12
TSMCJ7.5CA	8.33	9.21	1	7.5	100	116.3	12.9
TSMCJ8.0CA	8.89	9.83	1	8	50	110.3	13.6
TSMCJ8.5CA	9.44	10.4	1	8.5	20	104.2	14.4
TSMCJ9.0CA	10	11.1	1	9	10	97.4	15.4
TSMCJ10CA	11.1	12.3	1	10	5	88.2	17
TSMCJ11CA	12.2	13.5	1	11	1	82.4	18.2
TSMCJ12CA	13.3	14.7	1	12	1	75.4	19.9
TSMCJ13CA	14.4	15.9	1	13	1	69.8	21.5
TSMCJ14CA	15.6	17.2	1	14	1	64.7	23.2
TSMCJ15CA	16.7	18.5	1	15	1	61.5	24.4
TSMCJ16CA	17.8	19.7	1	16	1	57.7	26
TSMCJ17CA	18.9	20.9	1	17	1	54.3	27.6
TSMCJ18CA	20	22.1	1	18	1	51.4	29.2
TSMCJ20CA	22.2	24.5	1	20	1	46.3	32.4
TSMCJ22CA	24.4	26.9	1	22	1	42.3	35.5
TSMCJ24CA	26.7	29.5	1	24	1	38.6	38.9
TSMCJ26CA	28.9	31.9	1	26	1	35.6	42.1
TSMCJ27CA	30	33.1	1	27	1	34.4	43.6
TSMCJ28CA	31.1	34.4	1	28	1	33	45.4
TSMCJ30CA	33.3	36.8	1	30	1	31	48.4
TSMCJ33CA	36.7	40.6	1	33	1	28.1	53.3
TSMCJ36CA	40	44.2	1	36	1	25.8	58.1
TSMCJ40CA	44.4	49.1	1	40	1	23.3	64.5
TSMCJ43CA	47.8	52.8	1	43	1	21.6	69.4
TSMCJ45CA	50	55.3	1	45	1	20.6	72.7

Transient Voltage Suppressor

TSMCJ5.0CA - TSMCJ440CA

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
TSMCJ48CA	53.3	58.9	1	48	1	19.4	77.4
TSMCJ51CA	56.7	62.7	1	51	1	18.2	82.4
TSMCJ54CA	60	66.3	1	54	1	17.2	87.1
TSMCJ58CA	64.4	71.2	1	58	1	16	93.6
TSMCJ60CA	66.7	73.7	1	60	1	15.5	96.8
TSMCJ64CA	71.1	78.6	1	64	1	14.6	103
TSMCJ68CA	75.5	83.5	1	68	1	13.7	109
TSMCJ70CA	77.8	86	1	70	1	13.3	113
TSMCJ75CA	83.3	92.1	1	75	1	12.4	121
TSMCJ78CA	86.7	95.8	1	78	1	11.9	126
TSMCJ85CA	94.4	104	1	85	1	10.9	137
TSMCJ90CA	100	111	1	90	1	10.3	146
TSMCJ100CA	111	123	1	100	1	9.3	162
TSMCJ110CA	122	135	1	110	1	8.5	177
TSMCJ120CA	133	147	1	120	1	7.8	193
TSMCJ130CA	144	159	1	130	1	7.2	209
TSMCJ150CA	167	185	1	150	1	6.2	243
TSMCJ160CA	178	197	1	160	1	5.8	259
TSMCJ170CA	189	209	1	170	1	5.5	275
TSMCJ188CA	209	231	1	188	1	4.6	328
TSMCJ200CA	222	246	1	200	1	4.6	323
TSMCJ220CA	245	270	1	220	1	4.2	355
TSMCJ240CA	267	295	1	240	1	3.9	388
TSMCJ250CA	278	307	1	250	1	3.7	404
TSMCJ270CA	300	331	1	270	1	3.4	436
TSMCJ300CA	333	368	1	300	1	3.1	485
TSMCJ350CA	389	429	1	350	1	2.7	566
TSMCJ360CA	400	442	1	360	1	2.6	582
TSMCJ400CA	445	491	1	400	1	2.3	646
TSMCJ440CA	489	540	1	440	1	2.1	711

Transient Voltage Suppressor

TSMCJ5.0CA - TSMCJ440CA

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

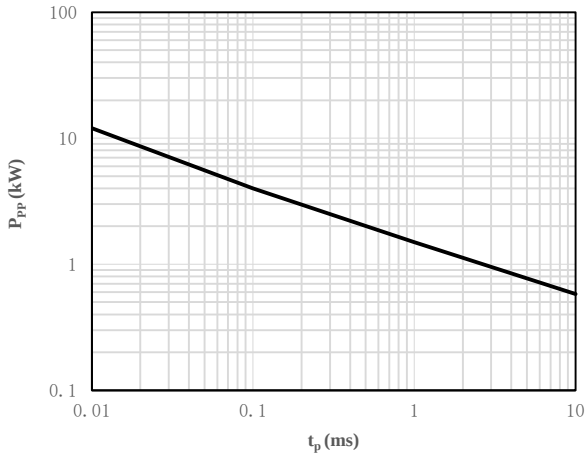


Fig 1 Peak Pulse Power Rating Curve

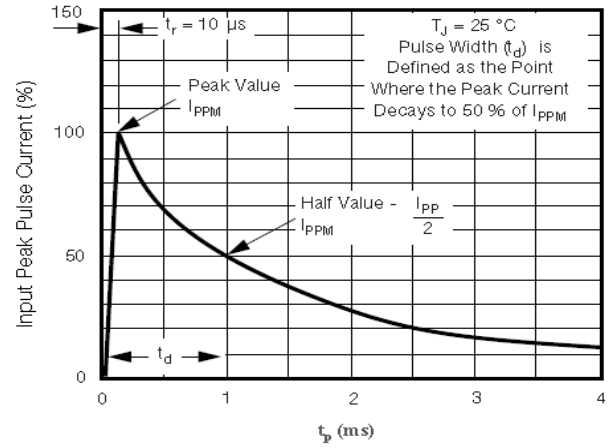


Fig 2 Pulse Waveform

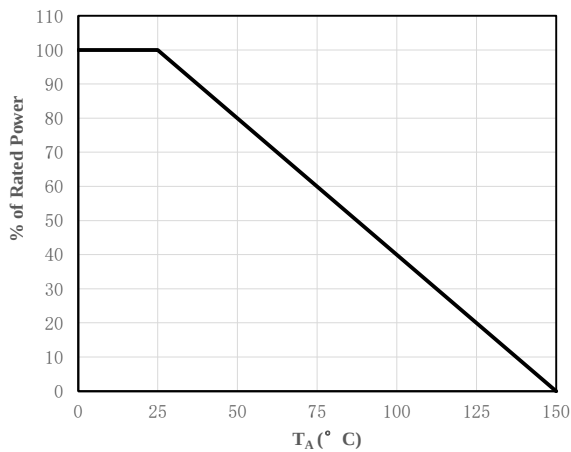
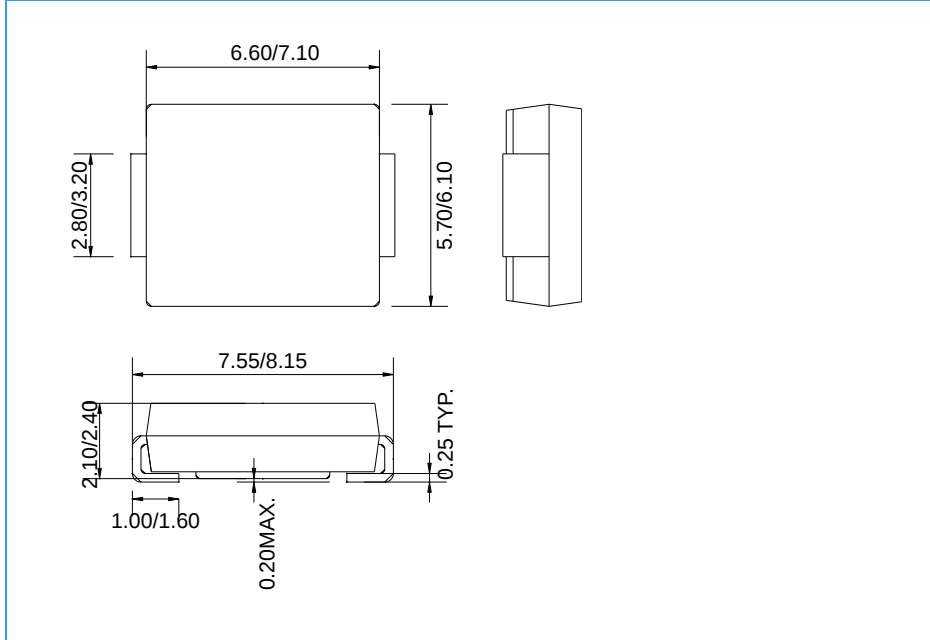


Fig 3 Power Derating Curve

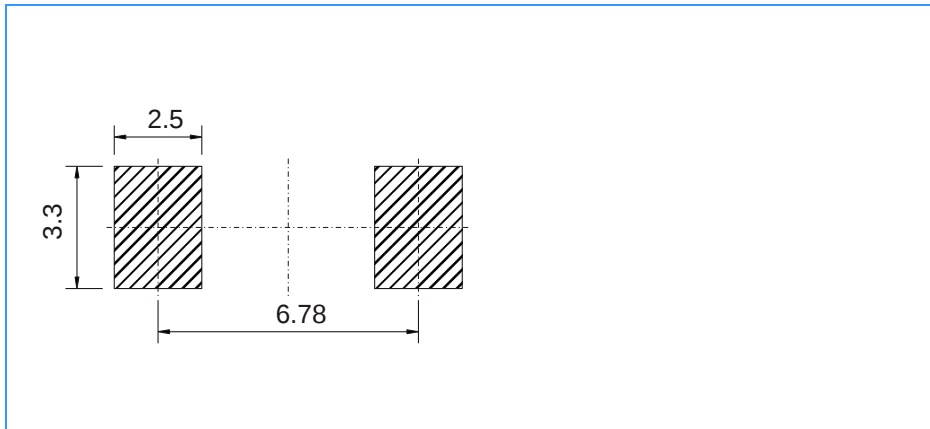
Transient Voltage Suppressor

TSMCJ5.0CA - TSMCJ440CA

Package Outline Dimensions (unit: mm)



Mounting Pad Layout (unit: mm)



Ordering Information

Part Number	Package	Shipping Quantity
TSMCJ5.0CA - TSMCJ440CA	SMC	3000 pcs / Tape & Reel