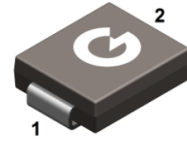


Features

- Low profile package with built-in strain relief for SMT applications
- Low incremental surge resistance, excellent clamping capability
- 5000W 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

HF



SMC

Mechanical Data

- Case: SMC
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity
5.0SMCJ5.0CA - 5.0SMCJ440CA	SMC	3000 pcs / Tape & Reel

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (t _p = 10/1000μs)	P _{PP}	5000	W
Peak Pulse Current (t _p = 10/1000μs)	I _{PP}	see E. Characteristics	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-to-Air *1	R _{θJA}	56	°C/W
Thermal Resistance Junction-to-Case *1	R _{θJC}	23	°C/W
Thermal Resistance Junction-to-Lead *1	R _{θJL}	14	°C/W
Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Note 1: The data tested by surface mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

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

Type	Marking Code	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
5.0SMCJ5.0CA	5.0SMCJ5.0CA	6.4	7.07	10	5.0	1000	543.5	9.2
5.0SMCJ6.0CA	5.0SMCJ6.0CA	6.67	7.37	10	6.0	1000	485.4	10.3
5.0SMCJ6.5CA	5.0SMCJ6.5CA	7.22	7.98	10	6.5	500	446.4	11.2
5.0SMCJ6.8CA	5.0SMCJ6.8CA	7.56	8.35	10	6.8	500	442.5	11.3
5.0SMCJ7.0CA	5.0SMCJ7.0CA	7.78	8.6	10	7.0	200	416.7	12.0
5.0SMCJ7.5CA	5.0SMCJ7.5CA	8.33	9.21	1	7.5	100	387.6	12.9
5.0SMCJ8.0CA	5.0SMCJ8.0CA	8.89	9.83	1	8.0	50	367.6	13.6
5.0SMCJ8.5CA	5.0SMCJ8.5CA	9.44	10.4	1	8.5	20	347.2	14.4
5.0SMCJ9.0CA	5.0SMCJ9.0CA	10.0	11.1	1	9.0	10	324.7	15.4
5.0SMCJ10CA	5.0SMCJ10CA	11.1	12.3	1	10	5	294.1	17
5.0SMCJ11CA	5.0SMCJ11CA	12.2	13.5	1	11	1	274.7	18.2
5.0SMCJ12CA	5.0SMCJ12CA	13.3	14.7	1	12	1	251.3	19.9
5.0SMCJ13CA	5.0SMCJ13CA	14.4	15.9	1	13	1	232.6	21.5
5.0SMCJ14CA	5.0SMCJ14CA	15.6	17.2	1	14	1	215.5	23.2
5.0SMCJ15CA	5.0SMCJ15CA	16.7	18.5	1	15	1	204.9	24.4
5.0SMCJ16CA	5.0SMCJ16CA	17.8	19.7	1	16	1	192.3	26
5.0SMCJ17CA	5.0SMCJ17CA	18.9	20.9	1	17	1	181.2	27.6
5.0SMCJ18CA	5.0SMCJ18CA	20	22.1	1	18	1	171.2	29.2
5.0SMCJ20CA	5.0SMCJ20CA	22.2	24.5	1	20	1	154.3	32.4
5.0SMCJ22CA	5.0SMCJ22CA	24.4	26.9	1	22	1	140.8	35.5
5.0SMCJ24CA	5.0SMCJ24CA	26.7	29.5	1	24	1	128.5	38.9
5.0SMCJ26CA	5.0SMCJ26CA	28.9	31.9	1	26	1	118.8	42.1
5.0SMCJ28CA	5.0SMCJ28CA	31.1	34.4	1	28	1	110.1	45.4
5.0SMCJ30CA	5.0SMCJ30CA	33.3	36.8	1	30	1	103.3	48.4
5.0SMCJ33CA	5.0SMCJ33CA	36.7	40.6	1	33	1	93.8	53.3
5.0SMCJ36CA	5.0SMCJ36CA	40.0	44.2	1	36	1	86.1	58.1
5.0SMCJ40CA	5.0SMCJ40CA	44.4	49.1	1	40	1	77.5	64.5
5.0SMCJ43CA	5.0SMCJ43CA	47.8	52.8	1	43	1	72.0	69.4
5.0SMCJ45CA	5.0SMCJ45CA	50.0	55.3	1	45	1	68.8	72.7
5.0SMCJ48CA	5.0SMCJ48CA	53.3	58.9	1	48	1	64.6	77.4

Type	Marking Code	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
5.0SMCJ51CA	5.0SMCJ51CA	56.7	62.7	1	51	1	60.7	82.4
5.0SMCJ54CA	5.0SMCJ54CA	60	66.3	1	54	1	57.4	87.1
5.0SMCJ58CA	5.0SMCJ58CA	64.4	71.2	1	58	1	53.4	93.6
5.0SMCJ60CA	5.0SMCJ60CA	66.7	73.7	1	60	1	51.7	96.8
5.0SMCJ64CA	5.0SMCJ64CA	71.1	78.6	1	64	1	48.5	103
5.0SMCJ68CA	5.0SMCJ68CA	75.5	83.5	1	68	1	45.9	109
5.0SMCJ70CA	5.0SMCJ70CA	77.8	86	1	70	1	44.2	113
5.0SMCJ75CA	5.0SMCJ75CA	83.3	92.1	1	75	1	41.3	121
5.0SMCJ78CA	5.0SMCJ78CA	86.7	95.8	1	78	1	39.7	126
5.0SMCJ80CA	5.0SMCJ80CA	88.8	98.4	1	80	1	38.8	129
5.0SMCJ85CA	5.0SMCJ85CA	94.4	104	1	85	1	36.5	137
5.0SMCJ90CA	5.0SMCJ90CA	100	111	1	90	1	34.2	146
5.0SMCJ100CA	5.0SMCJ100CA	111	123	1	100	1	30.9	162
5.0SMCJ110CA	5.0SMCJ110CA	122	135	1	110	1	28.2	177
5.0SMCJ120CA	5.0SMCJ120CA	133	147	1	120	1	25.7	194.4
5.0SMCJ160CA	5.0SMCJ160CA	178	197	1	160	1	19.3	259.2
5.0SMCJ170CA	5.0SMCJ170CA	189	209	1	170	1	18.2	275
5.0SMCJ200CA	5.0SMCJ200CA	222	246	1	200	1	15.4	324
5.0SMCJ250CA	5.0SMCJ250CA	278	307	1	250	1	12.3	405
5.0SMCJ270CA	5.0SMCJ270CA	300	331	1	270	1	11.4	438
5.0SMCJ300CA	5.0SMCJ300CA	333	368	1	300	1	10.3	486
5.0SMCJ400CA	5.0SMCJ400CA	444	494	1	400	1	7.7	650
5.0SMCJ440CA	5.0SMCJ440CA	489	540	1	440	1	7.03	711

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

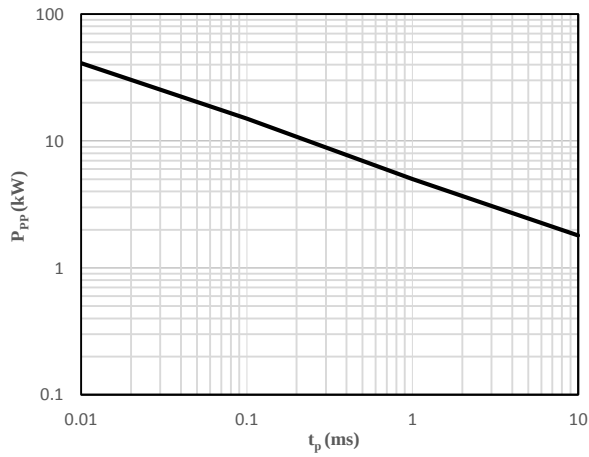


Fig 1 Peak Pulse Power Rating

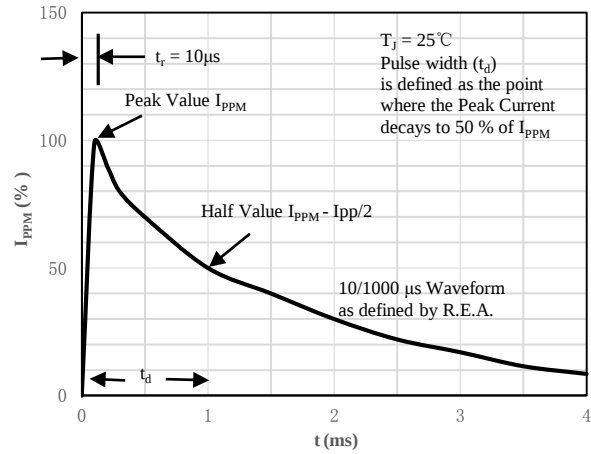


Fig 2 Pulse Waveform

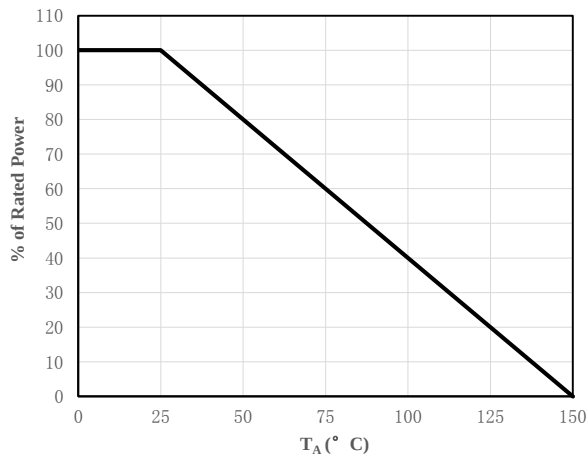
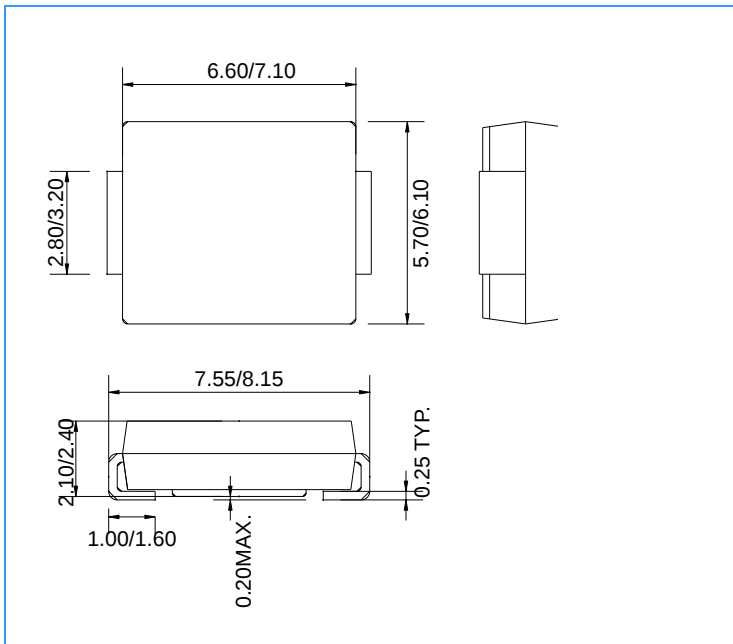


Fig 3 Power Derating Curve

Package Outline Dimensions (unit: mm)



Mounting Pad Layout (unit: mm)

