SMCJ5.0(C)A~SMCJ440(C)A

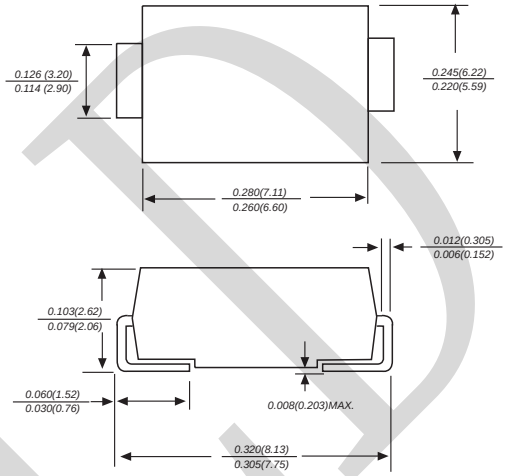
18-Mar-2023

1500W Surface Mount Transient Voltage Suppressors

Features

- Optimzed for LAN protection applications
- Ideal for ESD protection of data lines in accordance with IEC 1000-4-2(IEC801-2)
- Ideal for EFT protection of data lines in accordance with IEC 1000-4-4(IEC801-2)
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- 1500w peak pulse power capability
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time:typically less than 1.0ps from 0v to V_{BR} min
- High temperature soldering guaranteed: 260°C/10S at terminals

SMC



Dimensions in inches and (millimeters)

Mechanical Data

- Case : Molded plastic body
- Terminals : Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity : Polarity symbol marking on body
- Mounting Position : Any

Maximum Ratings And Electrical Characteristics

Ratings at 25℃ ambient temperature unless otherwise specified.

Parameter	SYMBOLS	VALUE	UNITS
Peak pulse power dissipation with a 10/1000μs wavetorm(Note 1,2,FIG.1)	P_{PPM}	Minimum 1500	Watts
Peak forward surge current	I_{FSM}	100.0	Amps
Peak pulse current with a 10/1000μs waveform(Note 1)	I_{PPM}	See Table 1	Amps
Steady state power dissapation (Note 3)	P_{PK}	1500	Watts
Maximum instantaneous forward voltage at 50A(Note 3,4) unidirectional only	V_F	3.5/5.0	Volts
Operating junction and storage temperature range	T_{STG},T_J	-55 to + 150	°C

Notes:1.Non-repetitive current pulse,per Fig.3 and derated above T_A=25°C per Fig.2

2.Mounted on 5.0mm copper pads to each terminal

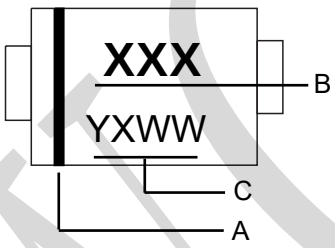
3.Measured on 8.3ms single half sine-wine.For uni-directional devices only.

4.VF=3.5V on SMC-5.0 thru SMC-220 devices and VF=5.0V on SMC-250 thru SMC-440 devices

Type		Marking		Peak Pulse Power	Stand-off Voltage	Maximum Reverse Current at V_R	Breakdown Voltage at IT		Test Current	Maximum Peak Pulse Current	Maximum Clamping Voltage at Ipp
Uni-Polar	Bi-Polar	Uni-Polar	Bi-Polar	PPP	$V_{(R)}$	IR	$V_{(BR)}$ (V)		IT	Ipp	Vc
				(W)	(V)	(uA)	Min.	Max.	(mA)	(A)	(V)
SMCJ5.0A	SMCJ5.0CA	GDE	BDE	1500	5	800	6.4	7	10	163.0	9.2
SMCJ6.0A	SMCJ6.0CA	GDG	BDG	1500	6	800	6.67	7.37	10	145.7	10.3
SMCJ6.5A	SMCJ6.5CA	GDK	BDK	1500	6.5	500	7.22	7.98	10	134.0	11.2
SMCJ7.0A	SMCJ7.0CA	GDM	BDM	1500	7	200	7.78	8.6	10	125.0	12.0
SMCJ7.5A	SMCJ7.5CA	GDP	BDP	1500	7.5	100	8.33	9.21	1	116.3	12.9
SMCJ8.0A	SMCJ8.0CA	GDR	BDR	1500	8	50	8.89	9.83	1	110.3	13.6
SMCJ8.5A	SMCJ8.5CA	GDT	BDT	1500	8.5	20	9.44	10.4	1	104.2	14.4
SMCJ9.0A	SMCJ9.0CA	GDV	BDV	1500	9	10	10	11.1	1	97.4	15.4
SMCJ10A	SMCJ10CA	GDX	BDX	1500	10	5	11.1	12.3	1	88.3	17.0
SMCJ11A	SMCJ11CA	GDZ	BDZ	1500	11	1	12.2	13.5	1	82.5	18.2
SMCJ12A	SMCJ12CA	GEE	BEE	1500	12	1	13.3	14.7	1	75.4	19.9
SMCJ13A	SMCJ13CA	GEG	BEG	1500	13	1	14.4	15.9	1	69.8	21.5
SMCJ14A	SMCJ14CA	GEK	BEK	1500	14	1	15.6	17.2	1	64.7	23.2
SMCJ15A	SMCJ15CA	GEM	BEM	1500	15	1	16.7	18.5	1	61.5	24.4
SMCJ16A	SMCJ16CA	GEP	BEP	1500	16	1	17.8	19.7	1	57.7	26.0
SMCJ17A	SMCJ17CA	GER	BER	1500	17	1	18.9	20.9	1	54.4	27.6
SMCJ18A	SMCJ18CA	GET	BET	1500	18	1	20	22.1	1	51.4	29.2
SMCJ20A	SMCJ20CA	GEV	BEV	1500	20	1	22.2	24.5	1	46.3	32.4
SMCJ22A	SMCJ22CA	GEX	BEX	1500	22	1	24.4	26.9	1	42.3	35.5
SMCJ24A	SMCJ24CA	GEZ	BEZ	1500	24	1	26.7	29.5	1	38.6	38.9
SMCJ26A	SMCJ26CA	GFE	BFE	1500	26	1	28.9	31.9	1	35.7	42.1
SMCJ28A	SMCJ28CA	GFG	BFG	1500	28	1	31.1	34.4	1	33.1	45.4
SMCJ30A	SMCJ30CA	GFK	BFK	1500	30	1	33.3	36.8	1	31.0	48.4
SMCJ33A	SMCJ33CA	GFM	BFM	1500	33	1	36.7	40.6	1	28.2	53.3
SMCJ36A	SMCJ36CA	GFP	BFP	1500	36	1	40	44.2	1	25.9	58.1
SMCJ40A	SMCJ40CA	GFR	BFR	1500	40	1	44.4	49.1	1	23.3	64.5
SMCJ43A	SMCJ43CA	GFT	BFT	1500	43	1	47.8	52.8	1	21.7	69.4
SMCJ45A	SMCJ45CA	GFV	BFV	1500	45	1	50	55.3	1	20.6	72.7
SMCJ48A	SMCJ48CA	GFX	BFX	1500	48	1	53.3	58.9	1	19.4	77.4
SMCJ51A	SMCJ51CA	GFZ	BFZ	1500	51	1	56.7	62.7	1	18.2	82.4
SMCJ54A	SMCJ54CA	GGE	BGE	1500	54	1	60	66.3	1	17.3	87.1
SMCJ58A	SMCJ58CA	GGG	BGG	1500	58	1	64.4	71.2	1	16.1	93.6
SMCJ60A	SMCJ60CA	GGK	BGK	1500	60	1	66.7	73.7	1	15.5	96.8
SMCJ64A	SMCJ64CA	GGM	BGM	1500	64	1	71.1	78.6	1	14.6	103
SMCJ70A	SMCJ70CA	GGP	BGP	1500	70	1	77.8	86	1	13.3	113
SMCJ75A	SMCJ75CA	GGR	BGR	1500	75	1	83.3	92.1	1	12.4	121
SMCJ78A	SMCJ78CA	GGT	BGT	1500	78	1	86.7	95.8	1	11.9	126
SMCJ85A	SMCJ85CA	GGV	BGV	1500	85	1	94.4	104	1	11.0	137
SMCJ90A	SMCJ90CA	GGX	BGX	1500	90	1	100	111	1	10.3	146
SMCJ100A	SMCJ100CA	GGZ	BGZ	1500	100	1	111	123	1	9.3	162

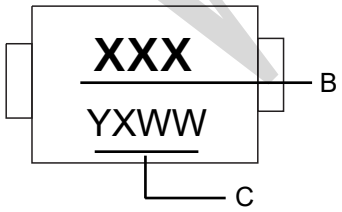
Type		Marking		Peak Pulse Power	Stand-off Voltage	Maximum Reverse Current at V_R	Breakdown Voltage at IT		Test Current	Maximum Peak Pulse Current	Maximum Clamping Voltage at Ipp
Uni-Polar	Bi-Polar	Uni-Polar	Bi-Polar	PPP	$V_{(R)}$	IR	V（BR）（V）		IT	Ipp	Vc
				（W）	（V）	（uA）	Min.	Max.	（mA）	（A）	（V）
SMCJ110A	SMCJ110CA	GHE	BHE	1500	110	1	122	135	1	8.5	177
SMCJ120A	SMCJ120CA	GHG	BHG	1500	120	1	133	147	1	7.8	193
SMCJ130A	SMCJ130CA	GHK	BHK	1500	130	1	144	159	1	7.2	209
SMCJ150A	SMCJ150CA	GHM	BHM	1500	150	1	167	185	1	6.2	243
SMCJ160A	SMCJ160CA	GHP	BHP	1500	160	1	178	197	1	5.8	259
SMCJ170A	SMCJ170CA	GHR	BHR	1500	170	1	189	209	1	5.5	275
SMCJ180A	SMCJ180CA	GHT	BHT	1500	180	1	201	222	1	5.1	292
SMCJ200A	SMCJ200CA	GHV	BHV	1500	200	1	224	247	1	4.6	324
SMCJ220A	SMCJ220CA	GHX	BHX	1500	220	1	246	272	1	4.2	356
SMCJ250A	SMCJ250CA	GHZ	BHZ	1500	250	1	279	309	1	3.7	405
SMCJ300A	SMCJ300CA	GJE	BJE	1500	300	1	335	371	1	3.1	486
SMCJ350A	SMCJ350CA	GJG	BJG	1500	350	1	391	432	1	2.6	567
SMCJ400A	SMCJ400CA	GJK	BJK	1500	400	1	447	494	1	2.3	648
SMCJ440A	SMCJ440CA	GJM	BJM	1500	440	1	492	543	1	2.1	713

Marking For Uni-Polar



Symbol	Explanation
A	Color Band Denotes Cathode
B	Marking Code, as above sheet
C	PDC information

Marking For Bi-Polar



Symbol	Explanation
B	Marking Code, as above sheet
C	PDC information

Ratings And Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

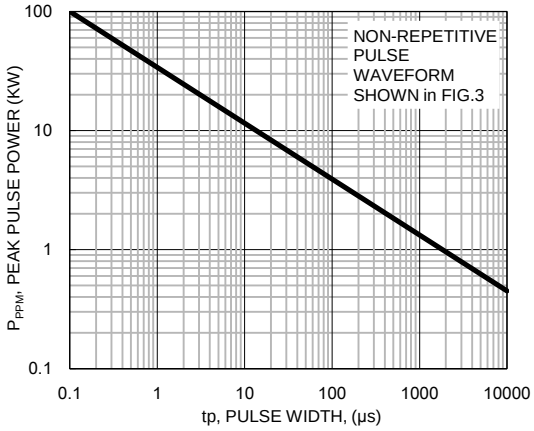


Fig.2 Pulse Derating Curve

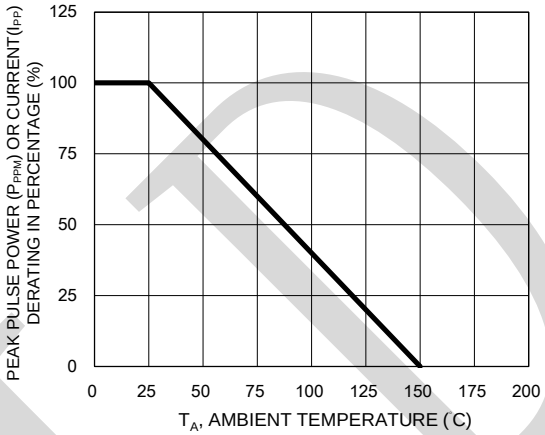


Fig.3 Clamping Power Pulse Waveform

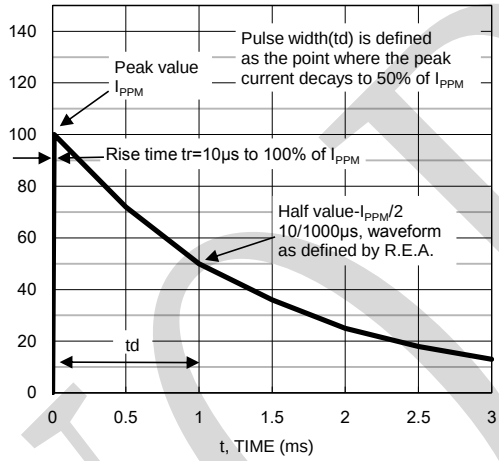


Fig.4 Typical Junction Capacitance

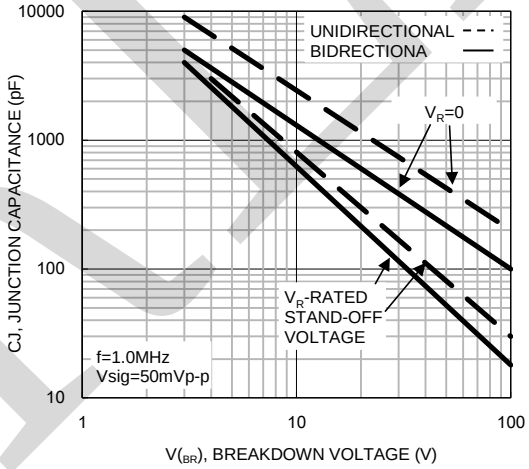
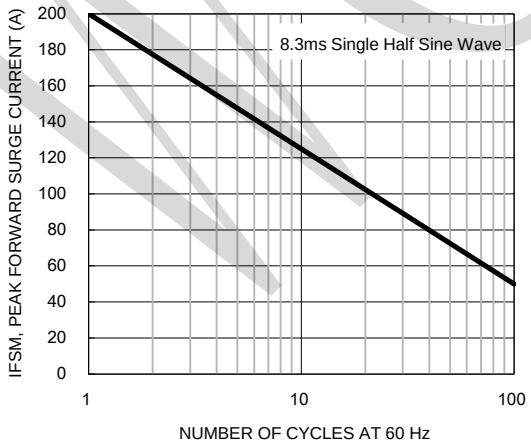
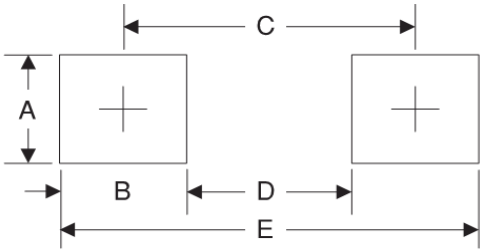


Fig.5 Maximum Non-repetitive Forward Surge Current Unidirectional Only

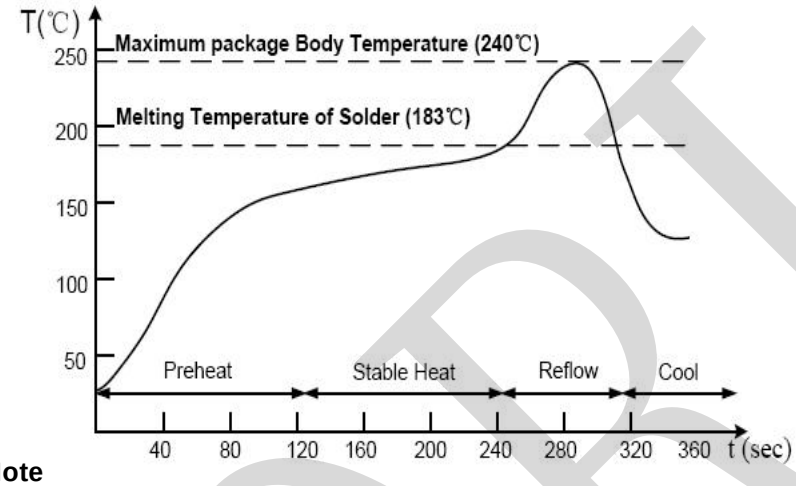


Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	3.30	0.130
B	2.50	0.098
C	6.80	0.268
D	4.40	0.173
E	9.40	0.370

Suggested Soldering Temperature Profile



Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 265°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.