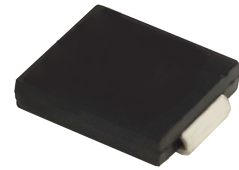


Transient Voltage Suppressor

3.0SMCJ5.0 - 3.0SMCJ440CA

Features

- Optimized for LAN protection applications
- Low profile package with built-in strain relief for SMT applications
- Low incremental surge resistance, excellent clamping capability
- 3000W peak pulse power capability with very fast response time
- High temperature soldering guaranteed: 260°C / 10s at terminals
- Bi-directional applications use suffix C or CA (e.g. 3.0SMCJ10C, 3.0SMCJ10CA)
- RoHS compliant with Halogen-free



SMC(DO-214AB)

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 ^{*1,2}	P _{PPM}	Minimum 3000	W
Peak pulse current with a 10/1000µs waveform ^{*1}	I _{PPM}	see E. Characteristics	A
Operating junction and storage temperature range	T _J , T _{STG}	-55 ~ +150	°C

Note *1: Non-repetitive current pulses

Note *2: Mounted on minimum recommended pad layout

Transient Voltage Suppressor

3.0SMCJ5.0 - 3.0SMCJ440CA

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

Type	Breakdown Voltage V _{BR@IT}		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
3.0SMCJ5.0CA	6.40	7.82	10	5.0	1000	312.5	9.6
3.0SMCJ5.0A	6.40	7.07	10	5.0	1000	326.1	9.2
3.0SMCJ6.0CA	6.67	8.15	10	6.0	1000	263.2	11.4
3.0SMCJ6.0A	6.67	7.37	10	6.0	1000	291.3	10.3
3.0SMCJ6.5CA	7.22	8.82	10	6.5	500	243.9	12.3
3.0SMCJ6.5A	7.22	7.98	10	6.5	500	267.9	11.2
3.0SMCJ6.8CA	7.56	9.22	10	6.8	500	247.9	12.1
3.0SMCJ6.8A	7.56	8.35	10	6.8	500	250.0	12.0
3.0SMCJ7.0CA	7.78	9.51	10	7.0	200	225.6	13.3
3.0SMCJ7.0A	7.78	8.60	10	7.0	200	250.0	12.0
3.0SMCJ7.5CA	8.33	10.2	1.0	7.5	100	209.8	14.3
3.0SMCJ7.5A	8.33	9.21	1.0	7.5	100	232.6	12.9
3.0SMCJ8.0CA	8.89	10.9	1.0	8.0	50	200.0	15.0
3.0SMCJ8.0A	8.89	9.83	1.0	8.0	50	220.6	13.6
3.0SMCJ8.5CA	9.44	11.5	1.0	8.5	20	188.7	15.9
3.0SMCJ8.5A	9.44	10.4	1.0	8.5	20	208.3	14.4
3.0SMCJ9.0CA	10.0	12.2	1.0	9.0	10	177.5	16.9
3.0SMCJ9.0A	10.0	11.1	1.0	9.0	10	194.8	15.4
3.0SMCJ10CA	11.1	13.6	1.0	10	5.0	159.6	18.8
3.0SMCJ10A	11.1	12.3	1.0	10	5.0	176.5	17.0
3.0SMCJ11CA	12.2	14.9	1.0	11	5.0	149.3	20.1
3.0SMCJ11A	12.2	13.5	1.0	11	5.0	164.8	18.2
3.0SMCJ12CA	13.3	16.3	1.0	12	5.0	136.4	22.0
3.0SMCJ12A	13.3	14.7	1.0	12	5.0	150.8	19.9
3.0SMCJ13CA	14.4	17.6	1.0	13	5.0	126.1	23.8
3.0SMCJ13A	14.4	15.9	1.0	13	5.0	139.5	21.5
3.0SMCJ14CA	15.6	19.1	1.0	14	5.0	116.3	25.8
3.0SMCJ14A	15.6	17.2	1.0	14	5.0	129.3	23.2
3.0SMCJ15CA	16.7	20.4	1.0	15	5.0	111.5	26.9
3.0SMCJ15A	16.7	18.5	1.0	15	5.0	123.0	24.4

Transient Voltage Suppressor

3.0SMCJ5.0 - 3.0SMCJ440CA

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
3.0SMCJ16CA	17.8	21.8	1.0	16	5.0	104.2	28.8
3.0SMCJ16A	17.8	19.7	1.0	16	5.0	115.4	26.0
3.0SMCJ17CA	18.9	23.1	1.0	17	5.0	98.4	30.5
3.0SMCJ17A	18.9	20.9	1.0	17	5.0	108.7	27.6
3.0SMCJ18CA	20.0	24.4	1.0	18	5.0	93.2	32.2
3.0SMCJ18A	20.0	22.1	1.0	18	5.0	102.7	29.2
3.0SMCJ20CA	22.2	27.1	1.0	20	5.0	83.8	35.8
3.0SMCJ20A	22.2	24.5	1.0	20	5.0	92.6	32.4
3.0SMCJ22CA	24.4	29.8	1.0	22	5.0	76.1	39.4
3.0SMCJ22A	24.4	26.9	1.0	22	5.0	84.5	35.5
3.0SMCJ24CA	26.7	32.6	1.0	24	5.0	69.8	43.0
3.0SMCJ24A	26.7	29.5	1.0	24	5.0	77.1	38.9
3.0SMCJ26CA	28.9	35.3	1.0	26	5.0	64.4	46.6
3.0SMCJ26A	28.9	31.9	1.0	26	5.0	71.3	42.1
3.0SMCJ28CA	31.1	38.0	1.0	28	5.0	60.0	50.0
3.0SMCJ28A	31.1	34.4	1.0	28	5.0	66.1	45.4
3.0SMCJ30CA	33.3	40.7	1.0	30	5.0	56.1	53.5
3.0SMCJ30A	33.3	36.8	1.0	30	5.0	62.0	48.4
3.0SMCJ33CA	36.7	44.9	1.0	33	5.0	50.8	59.0
3.0SMCJ33A	36.7	40.6	1.0	33	5.0	56.3	53.3
3.0SMCJ36CA	40.0	48.9	1.0	36	5.0	46.7	64.3
3.0SMCJ36A	40.0	44.2	1.0	36	5.0	51.6	58.1
3.0SMCJ40CA	44.4	54.3	1.0	40	5.0	42.0	71.4
3.0SMCJ40A	44.4	49.1	1.0	40	5.0	46.5	64.5
3.0SMCJ43CA	47.8	58.4	1.0	43	5.0	39.1	76.7
3.0SMCJ43A	47.8	52.8	1.0	43	5.0	43.2	69.4
3.0SMCJ45CA	50.0	61.1	1.0	45	5.0	37.4	80.3
3.0SMCJ45A	50.0	55.3	1.0	45	5.0	41.3	72.7
3.0SMCJ48CA	53.3	65.1	1.0	48	5.0	35.1	85.5
3.0SMCJ48A	53.3	58.9	1.0	48	5.0	38.8	77.4
3.0SMCJ51CA	56.7	69.3	1.0	51	5.0	32.9	91.1
3.0SMCJ51A	56.7	62.7	1.0	51	5.0	36.4	82.4

Transient Voltage Suppressor

3.0SMCJ5.0 - 3.0SMCJ440CA

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
3.0SMCJ54CA	60.0	73.3	1.0	54	5.0	31.2	96.3
3.0SMCJ54A	60.0	66.3	1.0	54	5.0	34.4	87.1
3.0SMCJ58CA	64.4	78.7	1.0	58	5.0	29.1	103
3.0SMCJ58A	64.4	71.2	1.0	58	5.0	32.1	93.6
3.0SMCJ60CA	66.7	81.5	1.0	60	5.0	28.0	107
3.0SMCJ60A	66.7	73.7	1.0	60	5.0	31.0	96.8
3.0SMCJ64CA	71.1	86.9	1.0	64	5.0	26.3	114
3.0SMCJ64A	71.1	78.6	1.0	64	5.0	29.1	103
3.0SMCJ68CA	75.5	92.3	1.0	68	5.0	24.8	121
3.0SMCJ68A	75.5	83.5	1.0	68	5.0	27.5	109
3.0SMCJ70CA	77.8	95.1	1.0	70	5.0	24.0	125
3.0SMCJ70A	77.8	86.0	1.0	70	5.0	26.5	113
3.0SMCJ75CA	83.3	102	1.0	75	5.0	22.4	134
3.0SMCJ75A	83.3	92.1	1.0	75	5.0	24.8	121
3.0SMCJ78CA	86.7	106	1.0	78	5.0	21.6	139
3.0SMCJ78A	86.7	95.8	1.0	78	5.0	23.8	126
3.0SMCJ85CA	94.4	115	1.0	85	5.0	19.9	151
3.0SMCJ85A	94.4	104	1.0	85	5.0	21.9	137
3.0SMCJ90CA	100	122	1.0	90	5.0	18.8	160
3.0SMCJ90A	100	111	1.0	90	5.0	20.5	146
3.0SMCJ100CA	111	136	1.0	100	5.0	16.8	179
3.0SMCJ100A	111	123	1.0	100	5.0	18.5	162
3.0SMCJ110CA	122	149	1.0	110	5.0	15.3	196
3.0SMCJ110A	122	135	1.0	110	5.0	16.9	177
3.0SMCJ120CA	133	163	1.0	120	5.0	14.0	214
3.0SMCJ120A	133	147	1.0	120	5.0	15.5	193
3.0SMCJ130CA	144	176	1.0	130	5.0	13.0	231
3.0SMCJ130A	144	159	1.0	130	5.0	14.4	209
3.0SMCJ150CA	167	204	1.0	150	5.0	11.2	268
3.0SMCJ150A	167	185	1.0	150	5.0	12.3	243
3.0SMCJ160CA	178	218	1.0	160	5.0	10.5	287
3.0SMCJ160A	178	197	1.0	160	5.0	11.6	259

Transient Voltage Suppressor

3.0SMCJ5.0 - 3.0SMCJ440CA

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
3.0SMCJ170CA	189	231	1.0	170	5.0	9.9	304
3.0SMCJ170A	189	209	1.0	170	5.0	10.9	275
3.0SMCJ188CA	209	255	1.0	188	5.0	8.7	344
3.0SMCJ188A	209	231	1.0	188	5.0	9.1	328
3.0SMCJ200CA	222	272	1.0	200	5.0	8.4	356
3.0SMCJ200A	222	246	1.0	200	5.0	9.3	323
3.0SMCJ220CA	245	299	1.0	220	5.0	7.7	392
3.0SMCJ220A	245	270	1.0	220	5.0	8.5	355
3.0SMCJ240CA	267	326	1.0	240	5.0	7.0	428
3.0SMCJ240A	267	295	1.0	240	5.0	7.7	388
3.0SMCJ250CA	278	340	1.0	250	5.0	6.7	446
3.0SMCJ250A	278	307	1.0	250	5.0	7.4	404
3.0SMCJ300CA	333	408	1.0	300	5.0	5.6	535
3.0SMCJ300A	333	368	1.0	300	5.0	6.2	485
3.0SMCJ350CA	389	476	1.0	350	5.0	4.8	624
3.0SMCJ350A	389	429	1.0	350	5.0	5.3	566
3.0SMCJ360CA	400	489	1.0	360	5.0	4.6	652
3.0SMCJ360A	400	442	1.0	360	5.0	5.2	582
3.0SMCJ400CA	445	544	1.0	400	5.0	4.2	713
3.0SMCJ400A	445	491	1.0	400	5.0	4.6	646
3.0SMCJ440CA	489	598	1.0	440	5.0	3.8	784
3.0SMCJ440A	489	540	1.0	440	5.0	4.2	711

Transient Voltage Suppressor

3.0SMCJ5.0 - 3.0SMCJ440CA

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

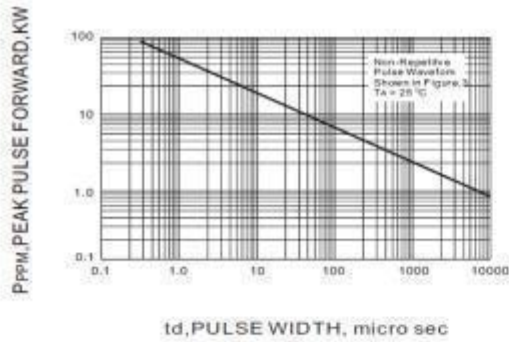


Fig. 1 PEAK PULSE POWER RATING CURVE

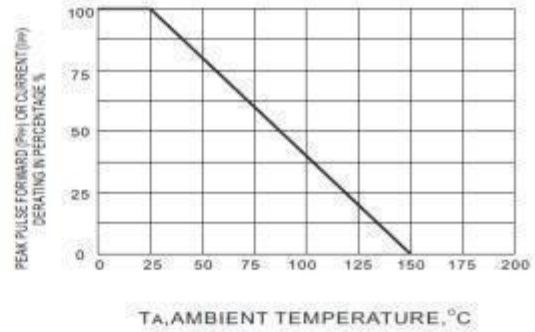


Fig. 2 DERATING CURVE

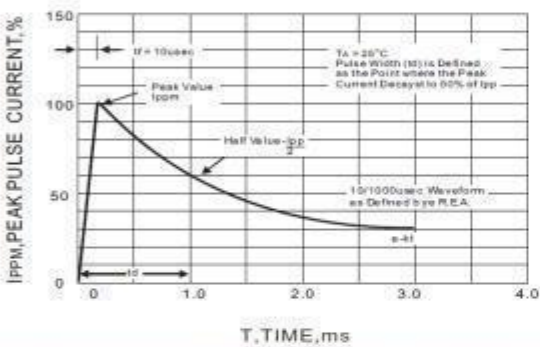


Fig. 3 PULSE WAVEFORM

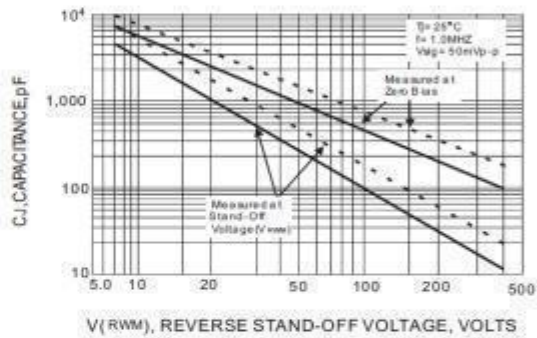


Fig. 4 TYPICAL CAPACITANCE

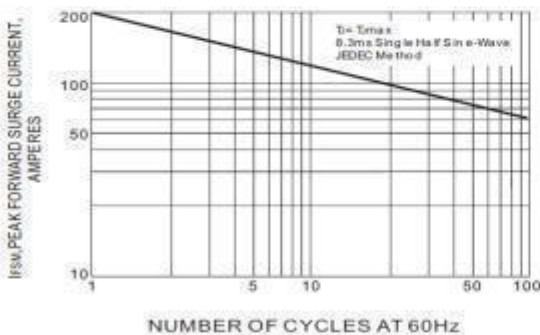
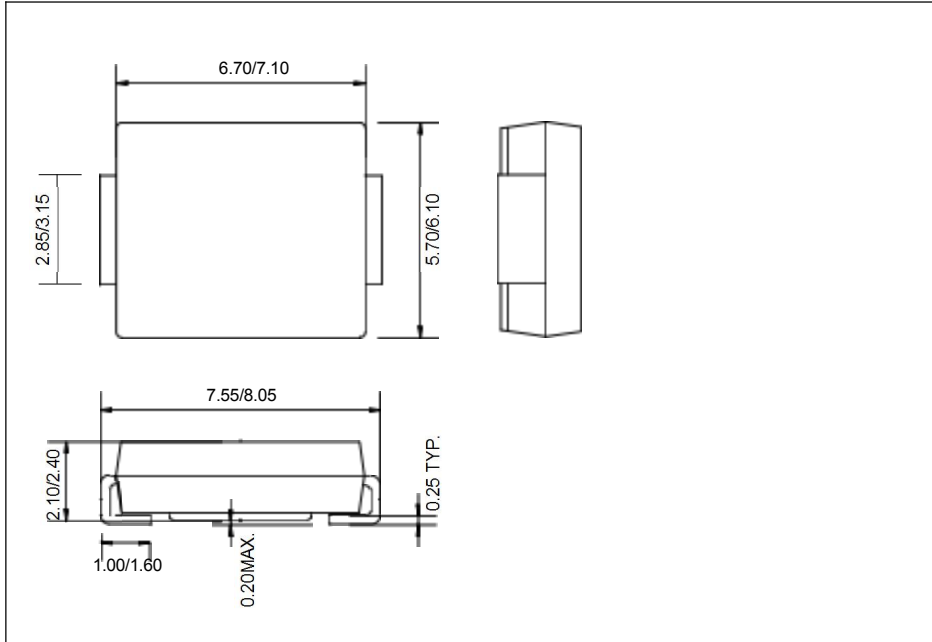


Fig. 5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

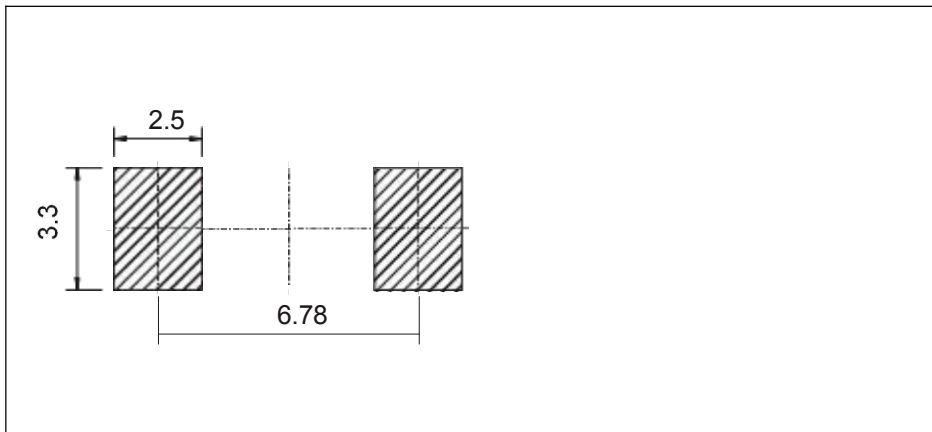
Transient Voltage Suppressor

3.0SMCJ5.0 - 3.0SMCJ440CA

Package Outline Dimensions (unit:mm)



Mounting Pad Layout (unit:mm)



Ordering Information

Part Number	Package	Shipping Quantity
3.0SMCJ5.0-3.0SMCJ440CA	SMC	3000 / Tape & Reel