

SMCJ5.0(C)A~SMCJ220(C)A

1500W Surface Mount Transient Voltage Suppressors

Features

- ◆ Optimized 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

Mechanical Data

Case : Molded plastic body

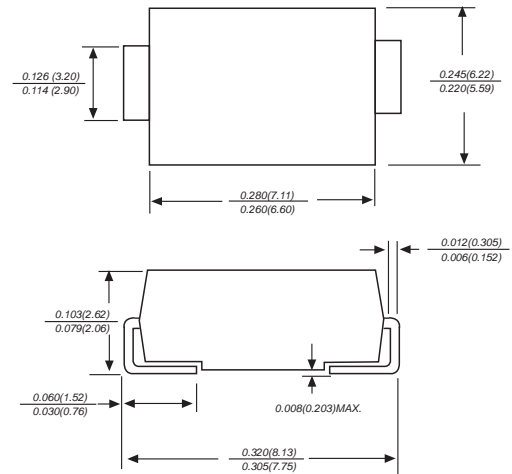
Terminals : Solder plated, solderable per MIL-STD-750, Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

Weight : 0.0035 ounce, 0.098 grams

DO-214AB/SMC



Dimensions in inches and (millimeters)

Maximum Ratings And Electrical Characteristics

Ratings at 25°C 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 (Note 1,2,3)	I _{FSM}	100.0	Amps
Peak pulse current with a 10/1000μs waveform(NOTE 1)	I _{PPM}	See Table 1	Amps
Steady state power dissipation (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.V_F=3.5V on SMC-5.0 thru SMC-90 devites and V_F=5.0V on SMC-100 thru SMC-170 devices

Device	Working Peak Reverse Voltage V_{WM} (Volts)	Breakdown Voltage $V_{(BR)}$ (Volts) at I_T		Test Current I_T (mA)	Maximum Clamping Voltage at I_{PPM} V_c (Volts)(NOTE5)	Maximum Peak Pulse Reverse Current I_{PPM} (NOTE5) (Amps)	Maximum Reverse Leakage a V_{WM} I_D (μ A)
		MIN	MAX				
SMCJ5.0(C)	5.0	6.40	7.55	10	9.6	156.2	800
SMCJ5.0(C)A	5.0	6.40	7.25	10	9.2	163.0	800
SMCJ6.0 (C)	6.0	6.67	8.45	10	11.4	131.6	800
SMCJ6.0(C)A	6.0	6.67	7.67	10	10.3	145.6	800
SMCJ6.5(C)	6.5	7.22	9.14	10	12.3	122.0	500
SMCJ6.5(C)A	6.5	7.22	8.3	10	11.2	133.9	500
SMCJ7.0(C)	7.0	7.78	9.86	10	13.3	112.8	200
SMCJ7.0(C)A	7.0	7.78	8.95	10	12.0	125.0	200
SMCJ7.5(C)	7.5	8.33	10.67	1.0	14.3	104.9	100
SMCJ7.5(C)A	7.5	8.33	9.58	1.0	12.9	116.3	100
SMCJ8.0(C)	8.0	8.89	11.3	1.0	15.0	100.0	50.0
SMCJ8.0(C)A	8.0	8.89	10.23	1.0	13.6	110.3	50.0
SMCJ8.5(C)	8.5	9.44	11.92	1.0	15.9	94.3	10.0
SMCJ8.5(C)A	8.5	9.44	10.82	1.0	14.4	104.2	10.0
SMCJ9.0(C)	9.0	10.0	12.6	1.0	16.9	88.7	5.0
SMCJ9.0(C)A	9.0	10.0	11.5	1.0	15.4	97.4	5.0
SMCJ10(C)	10.00	11.1	14.1	1.0	18.8	79.8	5.0
SMCJ10(C)A	10.00	11.1	12.8	1.0	17.0	88.2	5.0
SMCJ11(C)	11.00	12.2	15.4	1.0	20.1	74.6	5.0
SMCJ11(C)A	11.00	12.2	14	1.0	18.2	82.4	5.0
SMCJ12(C)	12.00	13.3	16.9	1.0	22.0	68.2	5.0
SMCJ12(C)A	12.00	13.3	15.3	1.0	19.9	75.3	5.0
SMCJ13(C)	13.00	14.4	18.2	1.0	23.8	63.0	5.0
SMCJ13(C)A	13.00	14.4	16.5	1.0	21.5	69.7	5.0
SMCJ14(C)	14.00	15.6	19.8	1.0	25.8	58.1	5.0
SMCJ14(C)A	14.00	15.6	17.9	1.0	23.2	55.8	5.0
SMCJ15(C)	15.00	16.7	21.1	1.0	26.9	64.7	5.0
SMCJ15(C)A	15.00	16.7	19.2	1.0	24.4	61.5	5.0
SMCJ16(C)	16.00	17.8	22.6	1.0	28.8	52.1	5.0
SMCJ16(C)A	16.00	17.8	20.5	1.0	26.0	57.7	5.0
SMCJ17(C)	17.00	18.9	23.9	1.0	30.5	49.2	5.0
SMCJ17(C)A	17.00	18.9	21.7	1.0	27.6	53.3	5.0
SMCJ18(C)	18.00	20.0	25.3	1.0	32.2	46.6	5.0
SMCJ18(C)A	18.00	20.0	23.3	1.0	29.2	51.4	5.0
SMCJ20(C)	20.00	22.2	28.1	1.0	35.8	41.9	5.0
SMCJ20(C)A	20.00	22.2	25.5	1.0	32.4	46.3	5.0
SMCJ22(C)	22.00	24.4	30.9	1.0	39.4	38.1	5.0
SMCJ22(C)A	22.00	24.4	28	1.0	35.5	42.2	5.0
SMCJ24(C)	24.00	26.7	33.8	1.0	43.0	34.9	5.0
SMCJ24(C)A	24.00	26.7	30.7	1.0	38.9	38.6	5.0
SMCJ26(C)	26.00	28.9	36.6	1.0	46.6	32.2	5.0
SMCJ26(C)A	26.00	28.9	33.2	1.0	42.1	35.6	5.0
SMCJ28(C)	28.00	31.1	39.4	1.0	50.0	30.0	5.0
SMCJ28(C)A	28.00	31.1	35.8	1.0	45.4	33.0	5.0
SMCJ30(C)	30.00	33.3	42.2	1.0	53.5	28.0	5.0
SMCJ30(C)A	30.00	33.3	38.3	1.0	48.4	31.0	5.0
SMCJ33(C)	33.00	36.7	46.5	1.0	59.0	25.2	5.0
SMCJ33(C)A	33.00	36.7	42.2	1.0	53.3	28.1	5.0
SMCJ36(C)	36.00	40.0	50.7	1.0	64.3	23.3	5.0
SMCJ36(C)A	36.00	40.0	46.0	1.0	58.1	25.8	5.0
SMCJ40(C)	40.00	44.4	56.3	1.0	71.4	21.0	5.0
SMCJ40(C)A	40.00	44.4	51.1	1.0	64.5	23.2	5.0

Device	Working Peak Reverse Voltage V_{WM} (Volts)	Breakdown Voltage $V_{(BR)}$ (Volts) at I_T		Test Current I_T (mA)	Maximum Clamping Voltage at $I_{PPM} V_c$ (Volts)	Maximum Peak Pulse Reverse Current I_{PPM} (NOTE5) (Amps)	Maximum Reverse Leakage $a V_{WM} I_D$ (μA)
		MIN	MAX				
SMCJ43(C)	43.00	47.8	60.5	1.0	76.7	19.6	5.0
SMCJ43(C)A	43.00	47.8	54.9	1.0	69.4	21.6	5.0
SMCJ45(C)	45.00	50.0	63.3	1.0	80.3	18.7	5.0
SMCJ45(C)A	45.00	50.0	57.5	1.0	72.7	20.6	5.0
SMCJ48(C)	48.00	53.3	67.5	1.0	85.5	17.5	5.0
SMCJ48(C)A	48.00	53.3	61.3	1.0	77.4	19.4	5.0
SMCJ51(C)	51.00	56.7	71.8	1.0	91.1	18.5	5.0
SMCJ51(C)A	51.00	56.7	65.2	1.0	82.4	18.2	5.0
SMCJ54(C)	54.00	60.0	76.0	1.0	96.3	15.6	5.0
SMCJ54(C)A	54.00	60.0	69.0	1.0	87.1	17.2	5.0
SMCJ58(C)	58.00	64.4	81.6	1.0	103.0	14.6	5.0
SMCJ58(C)A	58.00	64.4	74.1	1.0	93.6	16.0	5.0
SMCJ60(C)	60.00	66.7	84.5	1.0	107.0	14.0	5.0
SMCJ60(C)A	60.00	66.7	76.7	1.0	96.8	15.5	5.0
SMCJ64(C)	64.00	71.1	90.1	1.0	114.0	13.2	5.0
SMCJ64(C)A	64.00	71.1	81.8	1.0	103.0	14.6	5.0
SMCJ70(C)	70.00	77.8	98.6	1.0	125	12.0	5.0
SMCJ70(C)A	70.00	77.8	89.5	1.0	113	13.3	5.0
SMCJ75(C)	75.00	83.3	105.7	1.0	134	11.2	5.0
SMCJ75(C)A	75.00	83.3	95.8	1.0	121	12.4	5.0
SMCJ78(C)	78.00	86.7	109.8	1.0	139	10.8	5.0
SMCJ78(C)A	78.00	86.7	99.7	1.0	126	11.4	5.0
SMCJ85(C)	85.00	94.4	119.2	1.0	151	9.9	5.0
SMCJ85(C)A	85.00	94.4	108.2	1.0	137	10.4	5.0
SMCJ90(C)	90.00	100	126.5	1.0	160	9.4	5.0
SMCJ90(C)A	90.00	100	115.5	1.0	146	10.3	5.0
SMCJ100(C)	100.00	111	141	1.0	179	8.4	5.0
SMCJ100(C)A	100.00	111	128	1.0	162	9.3	5.0
SMCJ110(C)	110.00	122	154.4	1.0	196	7.7	5.0
SMCJ110(C)A	110.00	122	140.5	1.0	177	8.4	5.0
SMCJ120(C)	120.00	133	169	1.0	214	7.0	5.0
SMCJ120(C)A	120.00	133	153	1.0	193	7.9	5.0
SMCJ130(C)	130.00	144	182.5	1.0	231	6.5	5.0
SMCJ130(C)A	130.00	144	165.5	1.0	209	7.2	5.0
SMCJ150(C)	150.00	167	211.5	1.0	268	5.6	5.0
SMCJ150(C)A	150.00	167	192.5	1.0	243	6.2	5.0
SMCJ160(C)	160.00	178	226	1.0	287	5.2	5.0
SMCJ160(C)A	160.00	178	205	1.0	259	5.8	5.0
SMCJ170(C)	170.00	189	239.5	1.0	304	4.9	5.0
SMCJ170(C)A	170.00	189	217.5	1.0	275	5.5	5.0
SMCJ180(C)	180.00	198	253.8	1.0	322	4.7	5.0
SMCJ180(C)A	180.00	198	230.4	1.0	292	5.1	5.0
SMCJ190(C)	190.00	209	267.9	1.0	340	4.4	5.0
SMCJ190(C)A	190.00	209	243.2	1.0	308	4.8	5.0
SMCJ200(C)	200.00	220	282.0	1.0	358	4.1	5.0
SMCJ200(C)A	200.00	220	256.0	1.0	324	4.6	5.0
SMCJ210(C)	210.00	231	296.1	1.0	376	4.0	5.0
SMCJ210(C)A	210.00	231	268.8	1.0	340	4.4	5.0
SMCJ220(C)	220.00	242	310.2	1.0	394	3.8	5.0
SMCJ220(C)A	220.00	242	281.6	1.0	356	4.2	5.0

Ratings And Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

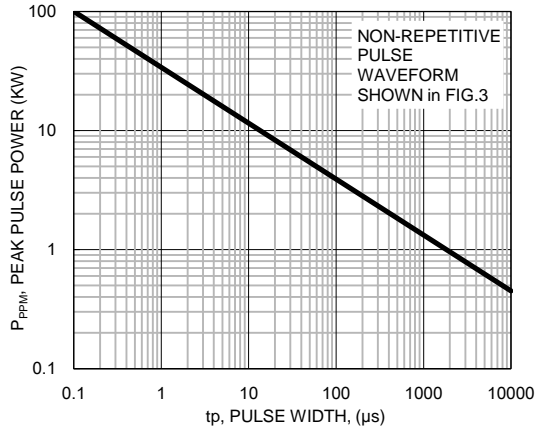


Fig.2 Pulse Derating Curve

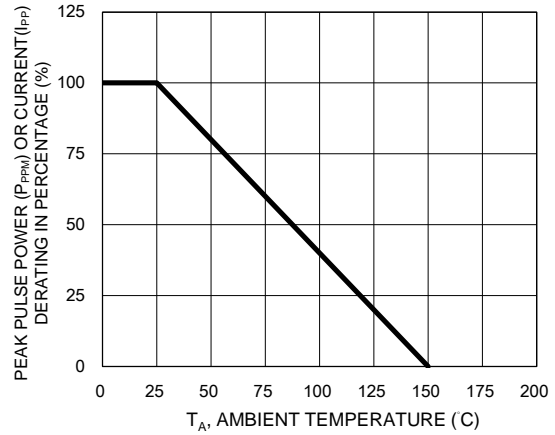


Fig.3 Clamping Power Pulse Waveform

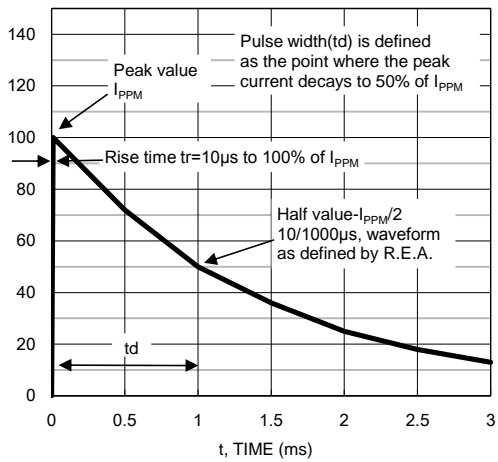


Fig.4 Typical Junction Capacitance

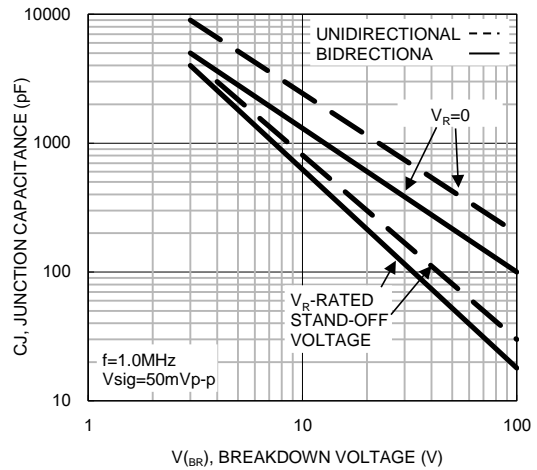


Fig.5 Maximum Non-repetitive Forward Surge Current Unidirectional Only

