

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Breskdown Voltage:5.0-170 Volts Peak pulse power:1500 Wallts

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 1000-4-2(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: 265°C/10S at terminals

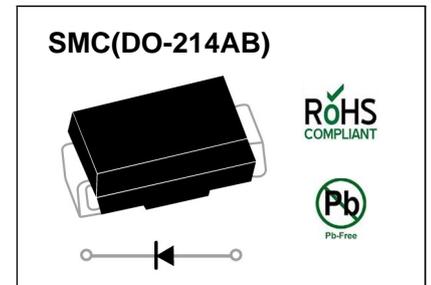
Mechanical Data

- Case:DO-214AB molded plastic body over passivated junction
- Terminals:Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity:Color band denotes cathode except for bidirectional types
- Mounting Position: Any
- Weight: 0.007 ounce, 0.25 grams

DEVICES FOR BIDIRECTIONAL APPLICATIONS

For bidirectional use suffix C or CA for types SMAJ5.0 thru SMAJ170(e.g.SMAJ5.0C,SMAJ170CA)

Electrical charateristics apply in both directions.



MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	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}	200.0	Amps
Peak pulse current with a 10/1000µs waveform(NOTE 1)	I _{PPM}	See Table 1	Amps
Steady state power dissapation (Note 3)	P _{M(AV)}	5.0	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 5.0mm² 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 devices and V_F=5.0V on SMC-100 thru SMC-170 devices

ELECTRICAL CHARACTERISTICS (at TA=25°C unless otherwise noted)

Device	Working Peak Reverse Voltage V _{WM} (Volts)	Breakdown Voltage V _(BR) (NOTE1) (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} (NOTE 5) (Amps)	Maximum Reverse Leakage a V _{WM} (NOTE3) I _D (μA)
		MIN	MAX				
SMCJ5.0	5.0	6.40	7.82	10	9.6	156.3	800
SMCJ5.0A	5.0	6.40	7.07	10	9.2	163.0	800
SMCJ6.0	6.0	6.67	8.15	10	11.4	131.6	800
SMCJ6.0A	6.0	6.67	7.37	10	10.3	145.6	800
SMCJ6.5	6.5	7.22	8.82	10	12.3	122.0	500
SMCJ6.5A	6.5	7.22	7.98	10	11.2	133.9	500
SMCJ7.0	7.0	7.78	9.51	10	13.3	112.8	200
SMCJ7.0A	7.0	7.78	8.60	10	12.0	125.0	200
SMCJ7.5	7.5	8.33	10.20	1.0	14.3	104.9	100
SMCJ7.5A	7.5	8.33	9.21	1.0	12.9	116.3	100
SMCJ8.0	8.0	8.89	10.9	1.0	15.0	100.0	50.0
SMCJ8.0A	8.0	8.89	9.83	1.0	13.6	110.3	50.0
SMCJ8.5	8.5	9.44	11.5	1.0	15.9	94.3	20.0
SMCJ8.5A	8.5	9.44	10.4	1.0	14.4	104.3	20.0
SMCJ9.0	9.0	10.0	12.2	1.0	16.9	88.8	10.0
SMCJ9.0A	9.0	10.0	11.1	1.0	15.4	97.4	10.0
SMCJ10	10.00	11.1	13.6	1.0	18.8	79.8	5.0
SMCJ10A	10.00	11.1	12.3	1.0	17.0	88.2	5.0
SMCJ11	11.00	12.2	14.9	1.0	20.1	74.6	5.0
SMCJ11A	11.00	12.2	13.5	1.0	18.2	82.4	5.0
SMCJ12	12.00	13.3	16.3	1.0	22.0	68.2	5.0
SMCJ12A	12.00	13.3	14.7	1.0	19.9	75.4	5.0
SMCJ13	13.00	14.4	17.6	1.0	23.8	63.0	5.0
SMCJ13A	13.00	14.4	15.9	1.0	21.5	69.8	5.0
SMCJ14	14.00	15.6	19.1	1.0	25.8	58.1	5.0
SMCJ14A	14.00	15.6	17.2	1.0	23.2	64.7	5.0
SMCJ15	15.00	16.7	20.4	1.0	26.9	55.8	5.0
SMCJ15A	15.00	16.7	18.5	1.0	24.4	61.5	5.0
SMCJ16	16.00	17.8	21.8	1.0	28.8	52.1	5.0
SMCJ16A	16.00	17.8	19.7	1.0	26.0	57.7	5.0
SMCJ17	17.00	18.9	23.1	1.0	30.5	49.2	5.0
SMCJ17A	17.00	18.9	20.9	1.0	27.6	54.3	5.0
SMCJ18	18.00	20.0	24.4	1.0	32.2	46.6	5.0
SMCJ18A	18.00	20.0	22.1	1.0	29.2	51.4	5.0
SMCJ20	20.00	22.2	27.1	1.0	35.8	41.9	5.0
SMCJ20A	20.00	22.2	24.5	1.0	32.4	46.3	5.0
SMCJ22	22.00	24.4	29.8	1.0	39.4	38.1	5.0
SMCJ22A	22.00	24.4	26.9	1.0	35.5	42.3	5.0
SMCJ24	24.00	26.7	32.6	1.0	43.0	34.9	5.0
SMCJ24A	24.00	26.7	29.5	1.0	38.9	38.6	5.0
SMCJ26	26.00	28.9	35.3	1.0	46.6	32.2	5.0
SMCJ26A	26.00	28.9	31.9	1.0	42.1	35.6	5.0
SMCJ28	28.00	31.1	38.0	1.0	50.0	30.0	5.0
SMCJ28A	28.00	31.1	34.4	1.0	45.4	33.0	5.0
SMCJ30	30.00	33.3	40.7	1.0	53.5	28.0	5.0
SMCJ30A	30.00	33.3	36.8	1.0	48.4	31.0	5.0

ELECTRICAL CHARACTERISTICS (at TA=25°C unless otherwise noted)

Device	Working Peak Reverse Voltage V _{WM} (Volts)	Breakdown Voltage V _(BR) (NOTE 1) (Volts) at I _T		Test Current I _T (mA)	Maximum Clamping Voltage at I _{PPM} VC (Volts) (NOTE5)	Maximum Peak Pulse Reverse Current I _{PPM} (NOTE 5) (Amps)	Maximum Reverse Leakage a V _{WM} (NOTE3) I _D (μA)
		MIN	MAX				
SMCJ33	33.00	36.7	44.9	1.0	59.0	25.4	5.0
SMCJ33A	33.00	36.7	40.6	1.0	53.3	28.1	5.0
SMCJ36	36.00	40.0	48.9	1.0	64.3	23.3	5.0
SMCJ36A	36.00	40.0	44.2	1.0	58.1	25.8	5.0
SMCJ40	40.00	44.4	54.3	1.0	71.4	21.0	5.0
SMCJ40A	40.00	44.4	49.1	1.0	64.5	23.3	5.0
SMCJ43	43.00	47.8	58.4	1.0	76.7	19.6	5.0
SMCJ43A	43.00	47.8	52.8	1.0	69.4	21.6	5.0
SMCJ45	45.00	50.0	61.1	1.0	80.3	18.7	5.0
SMCJ45A	45.00	50.0	55.3	1.0	72.7	20.6	5.0
SMCJ48	48.00	53.3	65.1	1.0	85.5	17.5	5.0
SMCJ48A	48.00	53.3	58.9	1.0	77.4	19.4	5.0
SMCJ51	51.00	56.7	69.3	1.0	91.1	16.5	5.0
SMCJ51A	51.00	56.7	62.7	1.0	82.4	18.2	5.0
SMCJ54	54.00	60.0	73.3	1.0	96.3	15.6	5.0
SMCJ54A	54.00	60.0	66.3	1.0	87.1	17.2	5.0
SMCJ58	58.00	64.4	78.7	1.0	103.0	14.6	5.0
SMCJ58A	58.00	64.4	71.2	1.0	93.0	16.0	5.0
SMCJ60	60.00	66.7	81.5	1.0	107.0	14.0	5.0
SMCJ60A	60.00	66.7	73.7	1.0	96.0	15.5	5.0
SMCJ64	64.00	71.1	86.9	1.0	114.0	13.2	5.0
SMCJ64A	64.00	71.1	78.6	1.0	103.0	14.6	5.0
SMCJ70	70.00	77.8	95.1	1.0	125	12.0	5.0
SMCJ70A	70.00	77.8	86.0	1.0	113	13.3	5.0
SMCJ75	75.00	83.3	102	1.0	134	11.2	5.0
SMCJ75A	75.00	83.3	92	1.0	121	12.4	5.0
SMCJ78	78.00	86.7	106	1.0	139	10.8	5.0
SMCJ78A	78.00	86.7	96	1.0	126	11.9	5.0
SMCJ85	85.00	94.4	115	1.0	151	9.9	5.0
SMCJ85A	85.00	94.4	104	1.0	137	10.9	5.0
SMCJ90	90.00	100	122	1.0	160	9.4	5.0
SMCJ90A	90.00	100	111	1.0	146	10.3	5.0
SMCJ100	100.00	111	136	1.0	179	8.4	5.0
SMCJ100A	100.00	111	123	1.0	162	9.3	5.0
SMCJ110	110.00	122	149	1.0	196	7.7	5.0
SMCJ110A	110.00	122	135	1.0	177	8.5	5.0
SMCJ120	120.00	133	163	1.0	214	7.0	5.0
SMCJ120A	120.00	133	147	1.0	193	7.8	5.0
SMCJ130	130.00	144	176	1.0	231	6.5	5.0
SMCJ130A	130.00	144	159	1.0	209	7.2	5.0
SMCJ150	150.00	167	204	1.0	268	5.6	5.0
SMCJ150A	150.00	167	185	1.0	243	6.2	5.0
SMCJ160	160.00	178	218	1.0	287	5.2	5.0
SMCJ160A	160.00	178	197	1.0	259	5.8	5.0
SMCJ170	170.00	189	231	1.0	304	4.9	5.0
SMCJ170A	170.00	189	209	1.0	275	5.5	5.0

NOTES:

- 1.V_(BR)measured after I_T applied for 300μs,I_T=square wave pulse or equivalent
- 2.Surge current waveform per Fig.3 and derated per Fig.2
- 3.For bidirectional types having V_{WM} of 10 volts and less,the I_D limit is doubled
- 4.All items and symbols are consistent with ANSI/IEEE C62.35
- 5.Peak pulse power waveform is 10/1000

Ratings and characteristic curves SMCJ5.0 thru SMCJ170CA

FIG. 1 - PEAK PULSE POWER RATING CURVE

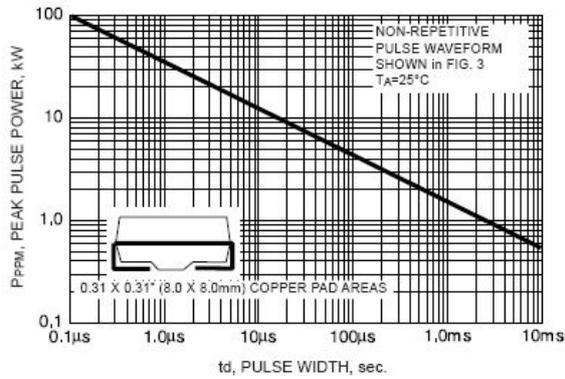


FIG. 2 - PULSE DERATING CURVE

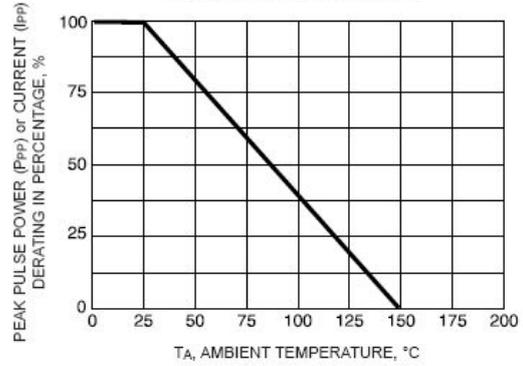


FIG. 3 - PULSE WAVEFORM

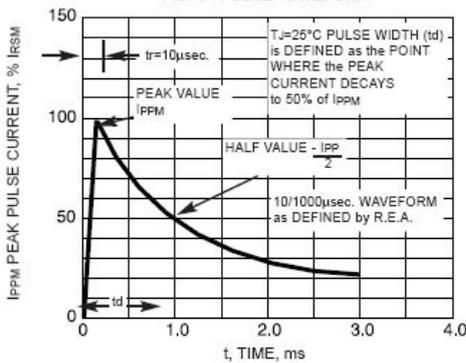


FIG. 4 - TYPICAL JUNCTION CAPACITANCE UNI-DIRECTIONAL

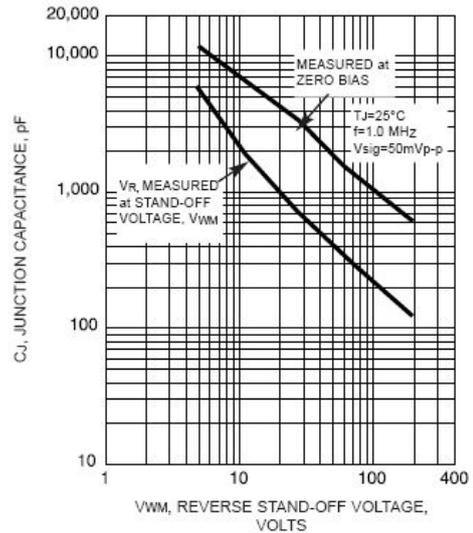


FIG. 5 - TYPICAL JUNCTION CAPACITANCE BI-DIRECTIONAL

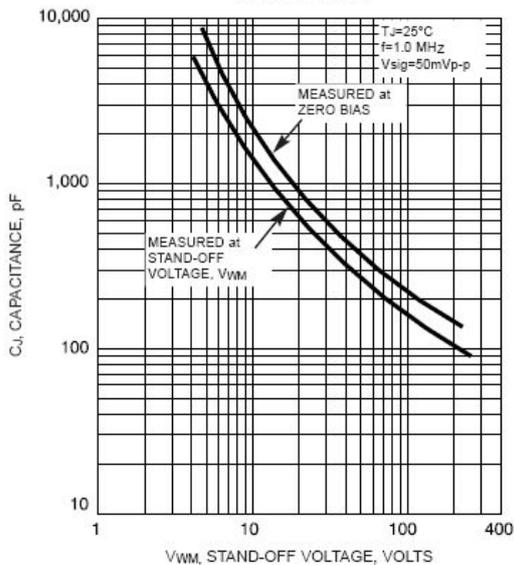
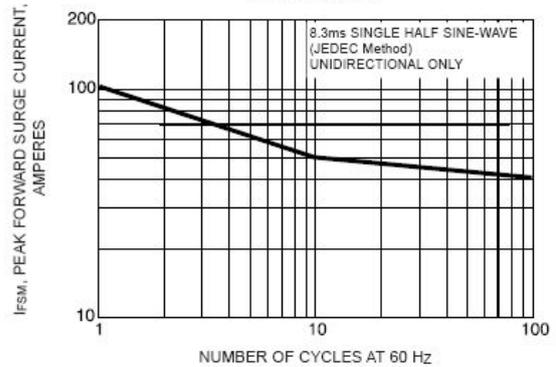


FIG. 6 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



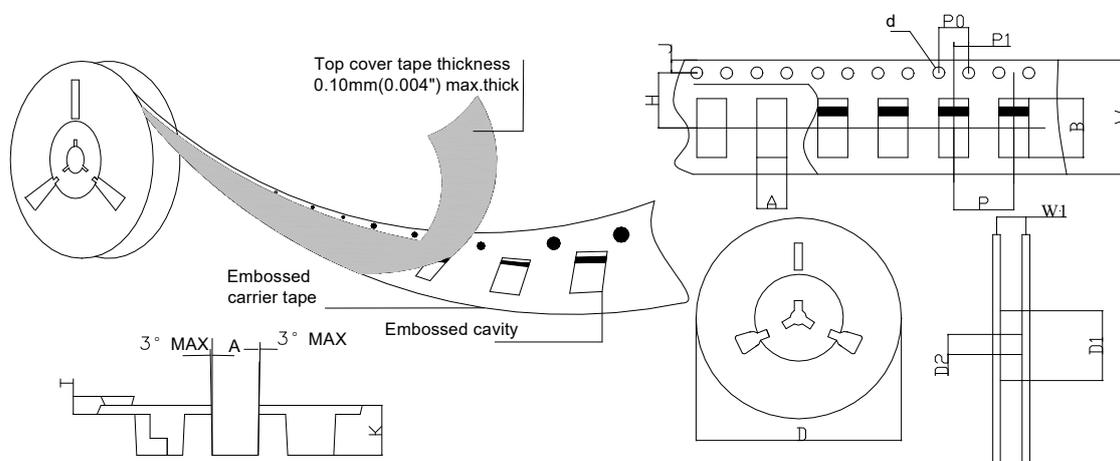
Marking and packing illustration

1、Marking



SYMBOL	Explanation
A	Product Name

2、Packaging



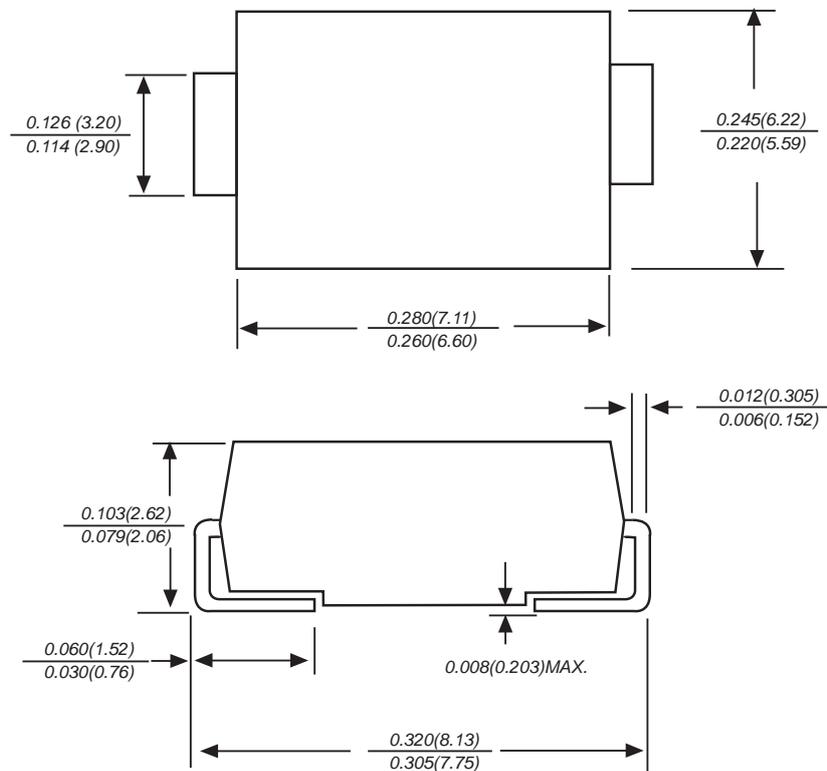
SPECIFICATIONS mm(inch)		PACKAGE	SPECIFICATIONS mm(inch)		PACKAGE
ITEM	SYM BOL	SMC (DO-214AB)	ITEM	SYM BOL	SMC (DO-214AB)
Carrier width	A	6.15(0.242)Max	Carrier depth	K	2.54(0.100)Typ
Carrier length	B	8.41(0.331)Max	Punch hole pitch	P	8.00(0.315)Typ
Sprocket hole	d	ø1.55(0.061)Typ	Sprocket hole pitch	P0	4.00(0.157)Typ
Reel outer diameter	D	330.0(13.0)Typ	Embossment center	P1	2.00(0.079)Typ
Reel inner diameter	D1	74.0(2.913)Min	Overall tape thickness	T	0.25(0.010)Typ
Feed hole diameter	D2	13.0(0.512)Typ	Tape width	W	16.0(0.430)Typ
Sprocket hole position	J	1.75(0.069)Typ	Reel width	W1	16.5(0.650)Min
Punch hole position	H	7.50(0.295)Typ			

3、Ordering Information

Part Number	Compliance	Case	Packaging
SSXX	Standard	SMC	3000/Tape & Reel

Dimension

SMC(DO-214AB)



Dimensions in inches and (millimeters)

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