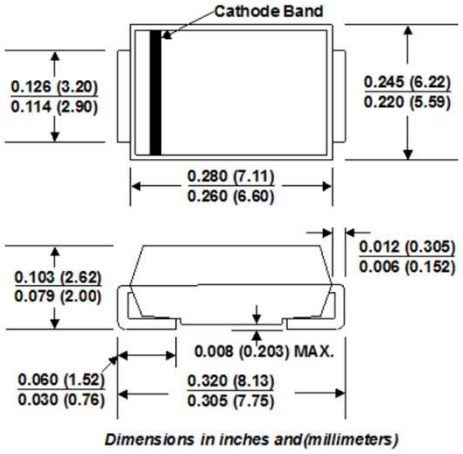
SMDJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
STAND-OFF VOLTAGE - 5.0 TO 250 Volts
3000 Watt Peak Pulse Power

DO-214AB (SMC J-Bend)



Dimensions in inches and(millimeters)

FEATURES

◎ For surface mounted applications in order to optimize board space
◎ Halogen-Free
◎ RoHS compliant
◎ Typical maximum temperature coefficient $\triangle V_{BR}=0.1\%xV_{BR}@25℃x\triangle T$
◎ Low profile package
◎ Built-in strain relief
◎ Glass passivated junction
◎ Low inductance
◎ Excellent clamping capability
◎ Repetition Rate (duty cycle):0.01%
◎ Fast response time: typically less than 1.0ps from 0 Volts to BV
◎ Typical IR less than 2μA above 12V
◎ IEC-61000-4-2 ESD 30kV(Air), 30kV (Contact)
◎ High temperature soldering: 260°C/40 seconds at terminals
◎ Plastic package has Underwriters Laboratory Flammability 94V-0
◎ Matte Tin Lead-free plated

MECHANICAL DATA

Case: JEDEC DO214AB. Molded plastic over glass passivated junction
Terminal: Solderable per MIL-STD-750, Method 2026
Polarity: Color band denoted positive end (cathode) except Bidirectional
Standard Packaging: 16mm tape (EIA STD RS-481)
Weight: 0.007 ounce, 0.21 gram

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μs waveform (Note 1,2 ,FIG.1)	P_{PPM}	Minimum 3000	Watts
Peak Pulse Current of on 10/1000μs waveform (Note 1,FIG.3)	I_{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note2, 3)	I_{FSM}	300	Amps
Operating junction and Storage Temperature Range	T_J , T_{STG}	-55 to + 150	℃

Notes :
1.Non-repetitive current pulse , per Fig. 3 and derated above T_A = 25℃ per Fig. 2 .
2.Mounted on 8.0mm x 8.0mm Copper Pads to each terminal
3.8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

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SMDJ PART NUMBER		DEVICE MARKING CODE		REVERSE STAND- OFF VOLTAGE	BREAKDOWN VOLTAGE V_{BR}(V) @I_T		TEST CURRENT IT (mA)	MAXIMUN CLAMPING VOLTAGE @Ipp Vc(V) (10/1000uS)	PEAK PULSE CURRENT Ipp (A) (10/1000uS)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc(V) (8/20uS)	PEAK PULSE CURRENT Ipp (A) (8/20uS)	REVERSE LEAKAGE @ V_{RWM} I_R(μA)
UNI- POLAR	BI-POLAR	UNI	BI	V_{RWM}(V)	MIN	MAX						
SMDJ5.0A	SMDJ5.0CA	RDE	DDE	5.0	6.40	7.00	10	9.2	326.10	12.0	1630.5	800.0
SMDJ6.0A	SMDJ6.0CA	RDG	DDG	6.0	6.67	7.37	10	10.3	291.30	13.4	1456.5	800.0
SMDJ6.5A	SMDJ6.5CA	RDK	DDK	6.5	7.22	7.98	10	11.2	267.90	14.6	1339.5	500.0
SMDJ7.0A	SMDJ7.0CA	PDM	DDM	7.0	7.78	8.60	10	12.0	250.00	15.6	1250.0	200.0
SMDJ7.5A	SMDJ7.5CA	PDP	DDP	7.5	8.33	9.21	1	12.9	232.60	16.8	1163.0	100.0
SMDJ8.0A	SMDJ8.0CA	PDR	DDR	8.0	8.89	9.83	1	13.6	220.60	17.7	1103.0	50.0
SMDJ8.5A	SMDJ8.5CA	PDT	DDT	8.5	9.44	10.40	1	14.4	208.34	18.7	1041.7	20.0
SMDJ9.0A	SMDJ9.0CA	PDV	DDV	9.0	10.00	11.10	1	15.4	194.81	20.0	974.1	10.0
SMDJ10A	SMDJ10CA	PDX	DDX	10.0	11.10	12.30	1	17.0	176.50	22.1	882.5	5.0
SMDJ11A	SMDJ11CA	PDZ	DDZ	11.0	12.20	13.50	1	18.2	164.84	23.7	824.2	2.0
SMDJ12A	SMDJ12CA	PEE	DEE	12.0	13.30	14.70	1	19.9	150.80	25.9	754.0	2.0
SMDJ13A	SMDJ13CA	PEG	DEG	13.0	14.40	15.90	1	21.5	139.54	28.0	697.7	2.0
SMDJ14A	SMDJ14CA	PEK	DEK	14.0	15.60	17.20	1	23.2	129.32	30.2	646.6	2.0
SMDJ15A	SMDJ15CA	PEM	DEM	15.0	16.70	18.50	1	24.4	123.00	31.7	615.0	2.0
SMDJ16A	SMDJ16CA	PEP	DEP	16.0	17.80	19.70	1	26.0	115.40	33.8	577.0	2.0
SMDJ17A	SMDJ17CA	PER	DER	17.0	18.90	20.90	1	27.6	108.70	35.9	543.5	2.0
SMDJ18A	SMDJ18CA	PET	DET	18.0	20.00	22.10	1	29.2	102.74	38.0	513.7	2.0
SMDJ20A	SMDJ20CA	PEV	DEV	20.0	22.20	24.50	1	32.4	92.60	42.1	463.0	2.0
SMDJ22A	SMDJ22CA	PEX	DEX	22.0	24.40	26.90	1	35.5	84.51	46.2	422.6	2.0
SMDJ24A	SMDJ24CA	PEZ	DEZ	24.0	26.70	29.50	1	38.9	77.13	50.6	385.7	2.0
SMDJ26A	SMDJ26CA	PFE	DFE	26.0	28.90	31.90	1	42.1	71.30	54.7	356.5	2.0
SMDJ28A	SMDJ28CA	PFG	DFG	28.0	31.10	34.40	1	45.4	66.10	59.0	330.5	2.0
SMDJ30A	SMDJ30CA	PFK	DFK	30.0	33.30	36.80	1	48.4	62.00	62.9	310.0	2.0
SMDJ33A	SMDJ33CA	PFM	DFM	33.0	36.70	40.60	1	53.3	56.30	69.3	281.5	2.0
SMDJ36A	SMDJ36CA	PFP	DFP	36.0	40.00	44.20	1	58.1	51.64	75.5	258.2	2.0
SMDJ40A	SMDJ40CA	PFR	DFR	40.0	44.40	49.10	1	64.5	46.52	83.9	232.6	2.0
SMDJ43A	SMDJ43CA	PFT	DFT	43.0	47.80	52.80	1	69.4	43.23	90.2	216.2	2.0
SMDJ45A	SMDJ45CA	PFV	DFV	45.0	50.00	55.30	1	72.7	41.30	94.5	206.5	2.0
SMDJ48A	SMDJ48CA	PFX	DFX	48.0	53.30	58.90	1	77.4	38.80	100.6	194.0	2.0
SMDJ51A	SMDJ51CA	PFZ	DFZ	51.0	56.70	62.70	1	82.4	36.41	107.1	182.1	2.0
SMDJ54A	SMDJ54CA	RGE	DGE	54.0	60.00	66.30	1	87.1	34.45	113.2	172.3	2.0
SMDJ58A	SMDJ58CA	PGG	DGG	58.0	64.40	71.20	1	93.6	32.10	121.7	160.5	2.0
SMDJ60A	SMDJ60CA	PGK	DGK	60.0	66.70	73.70	1	96.8	31.00	125.8	155.0	2.0
SMDJ64A	SMDJ64CA	PGM	DGM	64.0	71.10	78.60	1	103.0	29.13	133.9	145.7	2.0
SMDJ70A	SMDJ70CA	PGP	DGP	70.0	77.80	86.00	1	113.0	26.55	146.9	132.8	2.0
SMDJ75A	SMDJ75CA	PGR	DGR	75.0	83.30	92.10	1	121.0	24.80	157.3	124.0	2.0
SMDJ78A	SMDJ78CA	PGT	DGT	78.0	86.70	95.80	1	126.0	23.81	163.8	119.1	2.0
SMDJ85A	SMDJ85CA	PGV	DGV	85.0	94.40	104.00	1	137.0	21.90	178.1	109.5	2.0
SMDJ90A	SMDJ90CA	PGX	DGX	90.0	100.00	111.00	1	146.0	20.55	189.8	102.8	2.0
SMDJ100A	SMDJ100CA	PGZ	DGZ	100.0	111.00	123.00	1	162.0	18.52	210.6	92.6	2.0
SMDJ110A	SMDJ110CA	PHE	DHE	110.0	122.00	135.00	1	177.0	16.95	230.1	84.8	2.0
SMDJ120A	SMDJ120CA	PHG	DHG	120.0	133.00	147.00	1	193.0	15.55	250.9	77.8	2.0
SMDJ130A	SMDJ130CA	PHK	DHK	130.0	144.00	159.00	1	209.0	14.40	271.7	72.0	2.0
SMDJ150A	SMDJ150CA	PHM	DHM	150.0	167.00	185.00	1	243.0	12.35	315.9	61.8	2.0
SMDJ160A	SMDJ160CA	PHP	DHP	160.0	178.00	197.00	1	259.0	11.60	336.7	58.0	2.0
SMDJ170A	SMDJ170CA	PHR	DHR	170.0	189.00	209.00	1	275.0	10.91	357.5	54.6	2.0
SMDJ180A	SMDJ180CA	PHT	DHT	180.0	201.00	222.00	1	292.0	10.30	379.6	51.5	2.0
SMDJ200A	SMDJ200CA	PHX	DHX	200.0	224.00	247.00	1	324.0	9.30	421.2	46.5	2.0
SMDJ220A	SMDJ220CA	PHZ	DHZ	220.0	246.00	272.00	1	356.0	8.43	462.8	42.2	2.0
SMDJ250A	SMDJ250CA	PIE	DIE	250.0	279.00	309.00	1	405.0	7.50	526.5	37.5	2.0

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double.

RATINGS AND CHARACTERISTIC CURVES

Ratings and Characteristic Curves (T_A=25℃ unless otherwise noted)

Fig. 1 - Peak Pulse Power Rating Curve

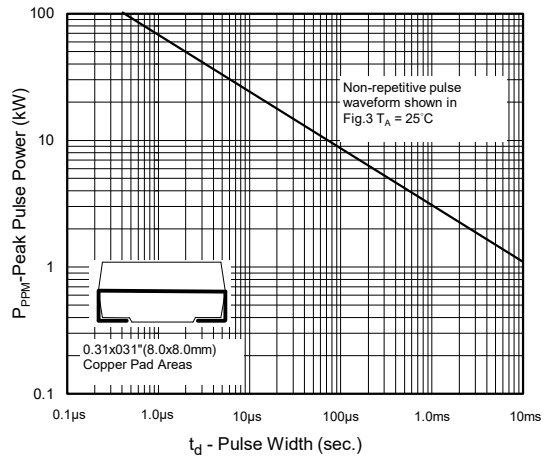


Fig.2 - Pulse Derating Curve

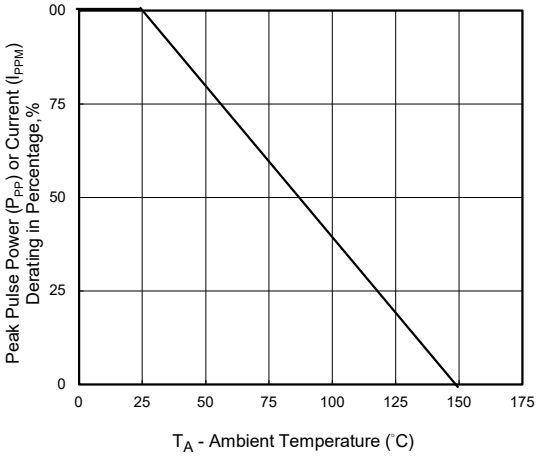


Fig.3 - Pulse Waveform

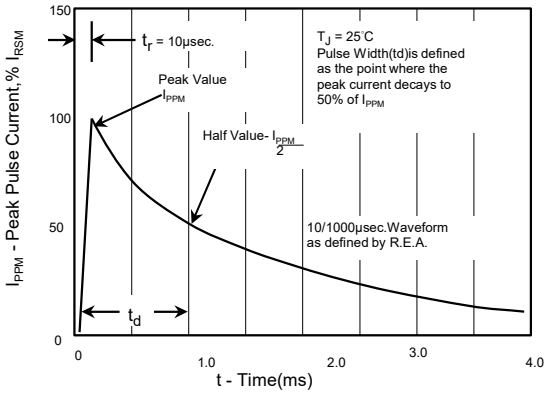


Fig. 4 - Typical Junction Capacitance

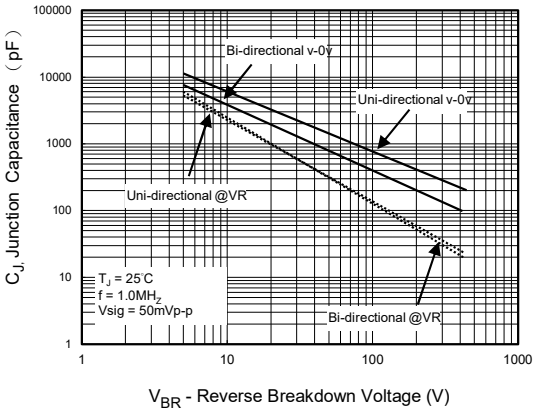


Fig. 5 - Steady State Power Derating Curve

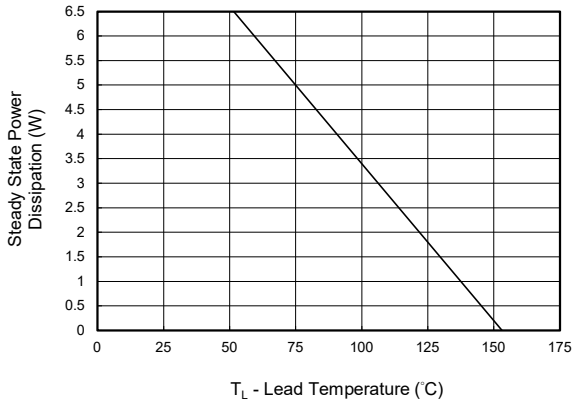
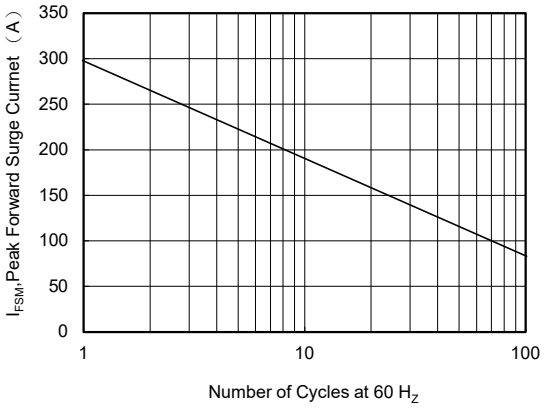


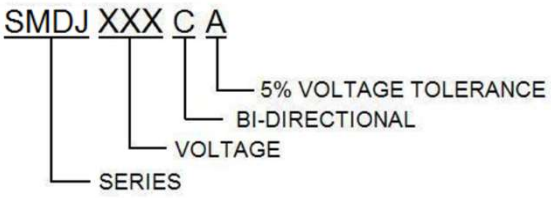
Fig.6 - Maximum Non-repetitive Forward Surge current uni-directional only



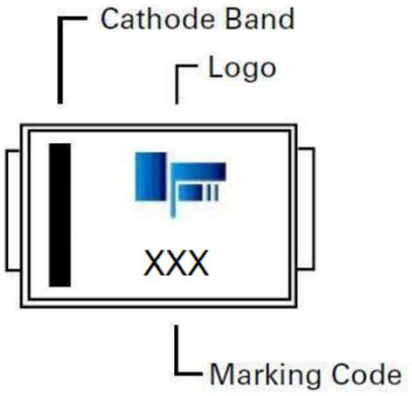
SMDJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Part Numbering System



Part Marking System



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
SMDJxxxXX	DO-214AB	3000	Tape & Reel - 16mm/13" tape	EIA STD RS-481
SMDJxxxXX	DO-214AB	500	Tape & Reel - 16mm/ 7" tape	EIA STD RS-481