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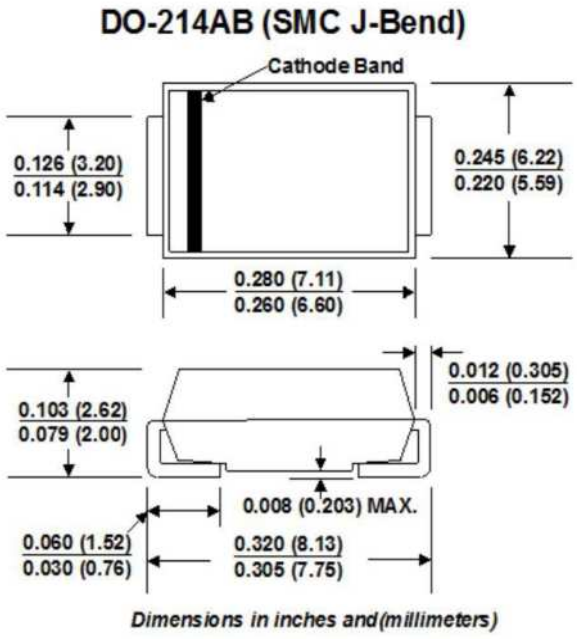
201 Shipyard Way, Unit C, Newport Beach, CA., USA 92663 Tel : 760-564-8656 • Fax : 760-564-2414
1-800-831-4881 Email: sales@mdesemiconductor.com Web: www.mdesemiconductor.com

5.0 SMDJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE-5.0 TO 170 Volts
5000 Watt Peak Pulse Power

FEATURES

- For surface mounted applications in order to optimize board space
- 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 1.0 ps from 0 volts to BV for unidirectional types
- Typical IR less than 1μA above 10V
- High temperature soldering: 250°C/10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94 V-O



Dimensions in inches and(millimeters)

MECHANICAL DATA

Case: JEDEC DO214AB. Molded plastic over glass passivated junction
Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denoted positive end (cathode) except Bidirectional
Standard Packaging: 12mm tape (EIA STD RS-481)
Weight: 0.007 ounces, 0.021 grams)

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 5.0SMDJ5.0 thru types 5.0SMDJ170 (e.g. 5.0SMDJ5.0C, 5.0SMDJ170CA)
Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C 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 5000	Watts
Peak Pulse Current of on 10/1000 μs 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}	400	Amps
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 +150	°C

NOTES:
1. Non-repetitive current pulse, per Fig.3 and derated above Ta=25 °C per Fig.2.
2. Mounted on 8x8mm Copper Pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes maximum.

Certified RoHS Compliant

UL File # E223026

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5000 Watt Surface Mount TVS

UNI-POLAR	BI-POLAR	DEVICE MARKING CODE		REVERSE STANDOFF VOLTAGE V_{RWM} (V)	BREAKDOWN VOLTAGE V_{BR} (V) MIN. @ I_T	BREAKDOWN VOLTAGE V_{BR} (V) MAX. @ I_T	TEST CURRENT (I_T) mA	MAXIMUM CLAMPING VOLTAGE @I_{PP} V_C (V)	PEAK PULSE CURRENT I_{PP} (A)	REVERSE LEAKAGE @ V_{RWM} I_R (µA)
		UNI	BI							
5.0SMDJ5.0A	5.0SMDJ5.0CA	5RDE	5DDE	5.00	6.40	7.00	10	9.2	543.6	1050
5.0SMDJ6.0A	5.0SMDJ6.0CA	5RDG	5DDG	6.00	6.67	7.37	10	10.3	485.5	1050
5.0SMDJ6.5A	5.0SMDJ6.5CA	5RDK	5DDK	6.50	7.22	7.98	10	11.2	446.5	750
5.0SMDJ7.0A	5.0SMDJ7.0CA	5PDM	5DDM	7.00	7.78	8.60	10	12.0	416.8	300
5.0SMDJ7.5A	5.0SMDJ7.5CA	5PDP	5DDP	7.50	8.33	9.21	1	12.9	387.7	150
5.0SMDJ8.0A	5.0SMDJ8.0CA	5PDR	5DDR	8.00	8.89	9.83	1	13.6	367.7	70
5.0SMDJ8.5A	5.0SMDJ8.5CA	5PDT	5DDT	8.50	9.44	10.40	1	14.4	347.3	30
5.0SMDJ9.0A	5.0SMDJ9.0CA	5PDV	5DDV	9.00	10.00	11.10	1	15.4	324.8	12
5.0SMDJ10A	5.0SMDJ10CA	5PDX	5DDX	10.00	11.10	12.30	1	17.0	294.2	6
5.0SMDJ11A	5.0SMDJ11CA	5PDZ	5DDZ	11.00	12.20	13.50	1	18.2	274.8	2
5.0SMDJ12A	5.0SMDJ12CA	5PEP	5BEP	12.00	13.30	14.70	1	19.9	252.0	2
5.0SMDJ13A	5.0SMDJ13CA	5PEQ	5BEQ	13.00	14.40	15.90	1	21.5	233.0	2
5.0SMDJ14A	5.0SMDJ14CA	5PER	5BER	14.00	15.60	17.20	1	23.2	216.0	2
5.0SMDJ15A	5.0SMDJ15CA	5PES	5BES	15.00	16.70	18.50	1	24.4	205.0	2
5.0SMDJ16A	5.0SMDJ16CA	5PET	5BET	16.00	17.80	19.70	1	26.0	193.0	2
5.0SMDJ17A	5.0SMDJ17CA	5PEU	5BEU	17.00	18.90	20.90	1	27.6	181.0	2
5.0SMDJ18A	5.0SMDJ18CA	5PEV	5BEV	18.00	20.00	22.10	1	29.2	172.0	2
5.0SMDJ20A	5.0SMDJ20CA	5PEW	5BEW	20.00	22.20	24.50	1	32.4	155.0	2
5.0SMDJ22A	5.0SMDJ22CA	5PEX	5BEX	22.00	24.40	26.90	1	35.5	141.0	2
5.0SMDJ24A	5.0SMDJ24CA	5PEZ	5BEZ	24.00	26.70	29.50	1	38.9	129.0	2
5.0SMDJ26A	5.0SMDJ26CA	5PFE	5BFE	26.00	28.90	31.90	1	42.1	119.0	2
5.0SMDJ28A	5.0SMDJ28CA	5PFG	5BFG	28.00	31.10	34.40	1	45.4	110.0	2
5.0SMDJ30A	5.0SMDJ30CA	5PFK	5BFK	30.00	33.30	36.80	1	48.4	103.0	2
5.0SMDJ33A	5.0SMDJ33CA	5PFM	5BFM	33.00	36.70	40.60	1	53.3	93.9	2
5.0SMDJ36A	5.0SMDJ36CA	5PFP	5BFP	36.00	40.00	44.20	1	58.1	86.1	2
5.0SMDJ40A	5.0SMDJ40CA	5PFR	5BFR	40.00	44.40	49.10	1	64.5	77.6	2
5.0SMDJ43A	5.0SMDJ43CA	5PFT	5BFT	43.00	47.80	52.80	1	69.4	72.1	2
5.0SMDJ45A	5.0SMDJ45CA	5PFV	5BFV	45.00	50.00	55.30	1	72.7	68.8	2
5.0SMDJ48A	5.0SMDJ48CA	5PFX	5BFX	48.00	53.30	58.90	1	77.4	64.7	2
5.0SMDJ51A	5.0SMDJ51CA	5PFZ	5BFZ	51.00	56.70	62.70	1	82.4	60.7	2
5.0SMDJ54A	5.0SMDJ54CA	5PGE	5BGE	54.00	60.00	66.30	1	87.1	57.5	2
5.0SMDJ58A	5.0SMDJ58CA	5PGG	5BGG	58.00	64.40	71.20	1	93.6	53.5	2
5.0SMDJ60A	5.0SMDJ60CA	5PGK	5BGK	60.00	66.70	73.70	1	96.8	51.7	2
5.0SMDJ64A	5.0SMDJ64CA	5PGM	5BGM	64.00	71.10	78.60	1	103.0	48.6	2
5.0SMDJ70A	5.0SMDJ70CA	5PGP	5BGB	70.00	77.80	86.00	1	113.0	44.3	2
5.0SMDJ75A	5.0SMDJ75CA	5PGR	5BGR	75.00	83.30	92.10	1	121.0	41.4	2
5.0SMDJ78A	5.0SMDJ78CA	5PGT	5BGT	78.00	86.70	95.80	1	126.0	39.7	2
5.0SMDJ85A	5.0SMDJ85CA	5PGV	5BGV	85.00	94.40	104.00	1	137.0	36.5	2
5.0SMDJ90A	5.0SMDJ90CA	5PGX	5BGX	90.00	100.00	111.00	1	146.0	34.3	2
5.0SMDJ100A	5.0SMDJ100CA	5PGZ	5BGZ	100.00	111.00	123.00	1	162.0	30.9	2
5.0SMDJ110A	5.0SMDJ110CA	5PHE	5BHE	110.00	122.00	135.00	1	177.0	28.3	2
5.0SMDJ120A	5.0SMDJ120CA	5PHG	5BHG	120.00	133.00	147.00	1	193.0	26.0	2
5.0SMDJ130A	5.0SMDJ130CA	5PHK	5BHK	130.00	144.00	159.00	1	209.0	24.0	2
5.0SMDJ150A	5.0SMDJ150CA	5PHM	5BHM	150.00	167.00	185.00	1	243.0	20.6	2
5.0SMDJ160A	5.0SMDJ160CA	5PHP	5BHB	160.00	178.00	197.00	1	259.0	19.3	2
5.0SMDJ170A	5.0SMDJ170CA	5PHR	5BHR	170.00	189.00	209.00	1	275.0	18.2	2

For bidirectional type having Vrwm of 20 volts and less, the IR limit is double.
For parts without A , the VBR is ± 10%

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RATING AND CHARACTERISTIC CURVES 5.0SMDJ SERIES

Fig. 1 - Peak Pulse Power Rating

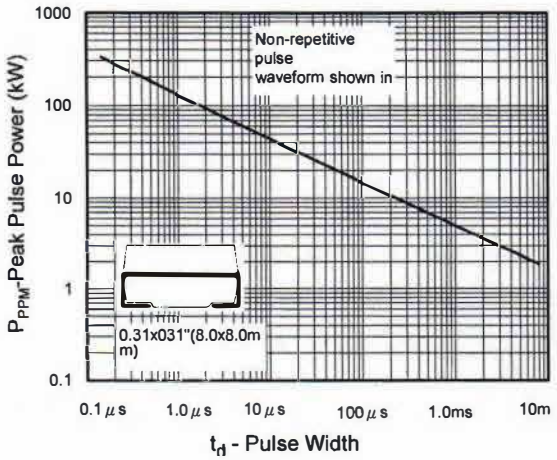


Fig.2 - Pulse Derating

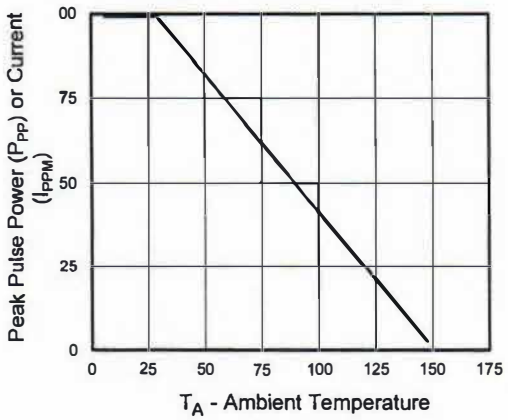


Fig. 5 - Steady State Power Derating

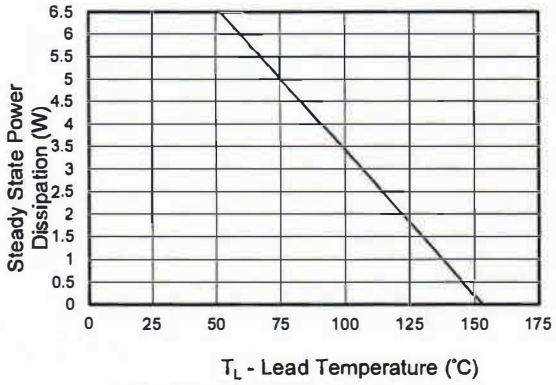


Fig.6 - Maximum Non-repetitive Forward

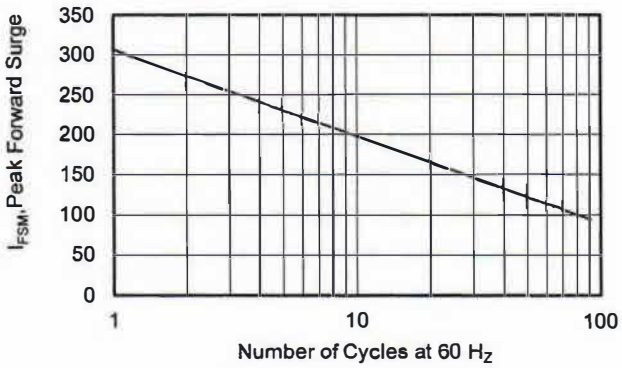


Fig.3 - Pulse Waveform

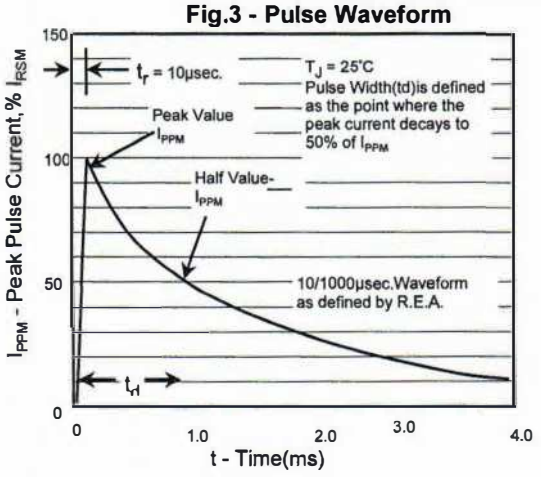
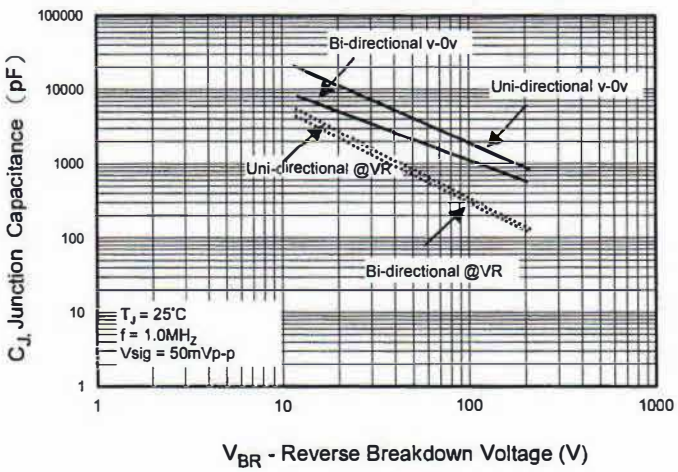


Fig. 4 - Typical Junction Capacitance



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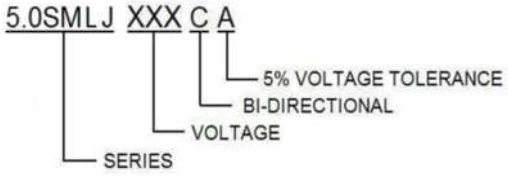
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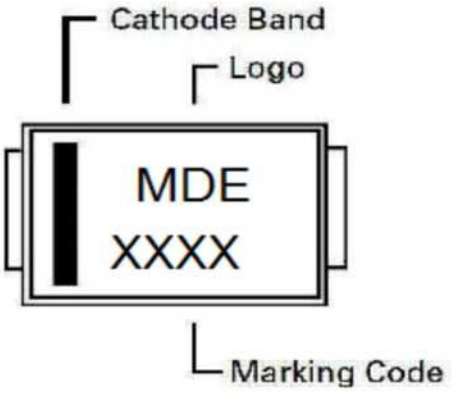
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5.0 SMDJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE-12.0 TO 15.0 Volts
5000 Watt Peak Pulse Power





Part number	Component Package	Quantity	Packaging Option	Packaging Specification
5.0SMDJxxxXX	DO-214AB	3000	Tape & Reel - 16mm/13" tape	EIA STD RS-481
5.0SMDJxxxXX	DO-214AB	500	Tape & Reel - 16mm/ 7" tape	EIA STD RS-481