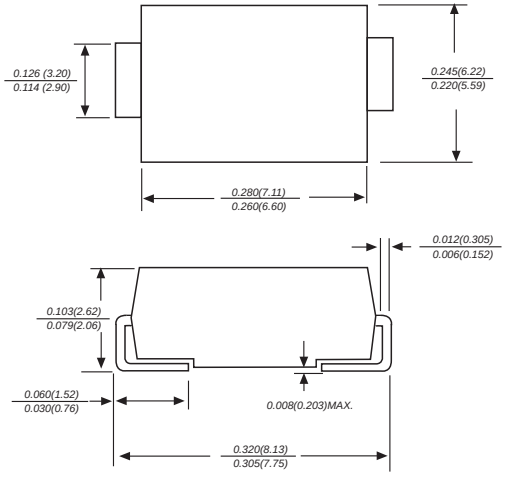
5.0SMDJ series

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Stand-off Voltage: 5.0-170 Volts Peak pulse power: 5000 Watts

DO-214AB/SMC



Dimensions in inches and (millimeters)

FEATURE

- 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
- 5000W peak pulse power capability at 10×1000μs waveform,
- repetition rate (duty cycle): 0.01%
- Fast response time
- Typical I_R less than 5μA above 22V
- High Temperature soldering: 260℃/10 seconds at terminals
- Plastic package has underwriters laboratory flammability 94V-0

MECHANICAL DATA

Case: JEDEC DO-214AB. Molded plastic over glass passivated junction
Terminal: Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode except bi-directional models

APPLICATIONS

- I/O interface
- AC/DC power supply
- Low frequency signal transmission line (RS232, RS485, etc.)

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

Peak pulse power dissipation at 10/1000μs waveform (Note1, Note2)	P_{PPM}	5000	Watts
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only	V_F	5.0	Voltage
Steady state power dissipation at T_A=50℃	$P_{M(AV)}$	6.5	Watts
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note3)	I_{FSM}	300	Amps
Operating junction and Storage Temperature Range.	T_J,T_{STG}	-65 to +150	℃
Typical thermal resistance junction to lead	$R_{\theta JL}$	15	℃/W
Typical thermal resistance junction to ambient	$R_{\theta JA}$	75	℃/W

Notes:
1. Non-repetitive current pulse , per Fig. 3 and derated above T_A = 25°C per Fig. 2.
2. Mounted on copper pad area of 0.31x0.31" (8.0 x 8.0mm) to each terminal.
3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only,duty cycle=4 per minute maximum.

Electrical Characteristics (TA=25℃)

Part Number (Uni)	Part Number (Bi)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts) @ I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_C @ I_{PP} (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_R @ V_R (μA)	Agency Approval
		UNI	BI		MIN	MAX					
5.0SMDJ12A	5.0SMDJ12CA	5PEP	5BEP	12.0	13.30	14.70	10	19.9	252.00	800	X
5.0SMDJ13A	5.0SMDJ13CA	5PEQ	5BEQ	13.0	14.40	15.90	10	21.5	233.00	500	X
5.0SMDJ14A	5.0SMDJ14CA	5PER	5BER	14.0	15.60	17.20	10	23.2	216.00	200	X
5.0SMDJ15A	5.0SMDJ15CA	5PES	5BES	15.0	16.70	18.50	1	24.4	205.00	100	X
5.0SMDJ16A	5.0SMDJ16CA	5PET	5BET	16.0	17.80	19.70	1	26.0	193.00	50	X
5.0SMDJ17A	5.0SMDJ17CA	5PEU	5BEU	17.0	18.90	20.90	1	27.6	181.00	20	X
5.0SMDJ18A	5.0SMDJ18CA	5PEV	5BEV	18.0	20.00	22.10	1	29.2	172.00	10	X
5.0SMDJ20A	5.0SMDJ20CA	5PEW	5BEW	20.0	22.20	24.50	1	32.4	155.00	5	X
5.0SMDJ22A	5.0SMDJ22CA	5PEX	5BEX	22.0	24.40	26.90	1	35.5	141.00	5	X
5.0SMDJ24A	5.0SMDJ24CA	5PEZ	5BEZ	24.0	26.70	29.50	1	38.9	129.00	5	X
5.0SMDJ26A	5.0SMDJ26CA	5PFE	5BFE	26.0	28.90	31.90	1	42.1	119.00	5	X
5.0SMDJ28A	5.0SMDJ28CA	5PFG	5BFG	28.0	31.10	34.40	1	45.4	110.00	5	X
5.0SMDJ30A	5.0SMDJ30CA	5PFK	5BFK	30.0	33.30	36.80	1	48.4	103.00	5	X
5.0SMDJ33A	5.0SMDJ33CA	5PFM	5BFM	33.0	36.70	40.60	1	53.3	93.90	5	X
5.0SMDJ36A	5.0SMDJ36CA	5PFP	5BFP	36.0	40.00	44.20	1	58.1	86.10	5	X
5.0SMDJ40A	5.0SMDJ40CA	5PFR	5BFR	40.0	44.40	49.10	1	64.5	77.60	5	X
5.0SMDJ43A	5.0SMDJ43CA	5PFT	5BFT	43.0	47.80	52.80	1	69.4	72.10	5	X
5.0SMDJ45A	5.0SMDJ45CA	5PFV	5BFV	45.0	50.00	55.30	1	72.7	68.80	5	X
5.0SMDJ48A	-	5PFX	-	48.0	53.30	58.90	1	77.4	64.70	5	X
5.0SMDJ51A	-	5PFZ	-	51.0	56.70	62.70	1	82.4	60.70	5	X
5.0SMDJ54A	-	5RGE	-	54.0	60.00	66.30	1	87.1	57.50	5	X
5.0SMDJ58A	-	5PGG	-	58.0	64.40	71.20	1	93.6	53.50	5	X
5.0SMDJ60A	-	5PGK	-	60.0	66.70	73.70	1	96.8	51.70	5	X
5.0SMDJ64A	-	5PGM	-	64.0	71.10	78.60	1	103.0	48.60	5	X
5.0SMDJ70A	-	5PGP	-	70.0	77.80	86.00	1	113.0	44.30	5	X
5.0SMDJ75A	-	5PGR	-	75.0	83.30	92.10	1	121.0	41.40	5	X
5.0SMDJ78A	-	5PGT	-	78.0	86.70	95.80	1	126.0	39.70	5	X
5.0SMDJ85A	-	5PGV	-	85.0	94.40	104.00	1	137.0	36.50	5	X
5.0SMDJ90A	-	5PGX	-	90.0	100.00	111.00	1	146.0	34.30	5	X
5.0SMDJ100A	-	5PGZ	-	100.0	111.00	123.00	1	162.0	30.90	5	X
5.0SMDJ110A	-	5PHE	-	110.0	122.00	135.00	1	177.0	28.30	5	X
5.0SMDJ120A	-	5PHG	-	120.0	133.00	147.00	1	193.0	26.00	5	X
5.0SMDJ130A	-	5PHK	-	130.0	144.00	159.00	1	209.0	24.00	5	X
5.0SMDJ150A	-	5PHM	-	150.0	167.00	185.00	1	243.0	20.60	5	X
5.0SMDJ160A	-	5PHP	-	160.0	178.00	197.00	1	259.0	19.30	5	X
5.0SMDJ170A	-	5PHR	-	170.0	189.00	209.00	1	275.0	18.20	5	X

For Bidirectional type having V_R of 20 volts and less, the I_R limit is double.

RATINGS AND CHARACTERISTIC CURVES 5.0SMDJ series

Figure 1 - Peak Pulse Power Rating Curve

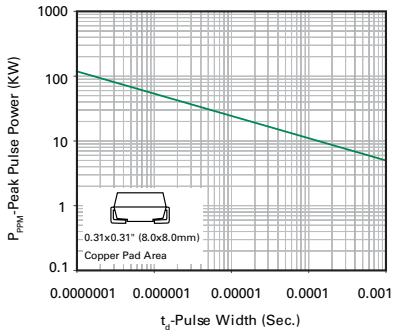


Figure 2 - Pulse Derating Curve

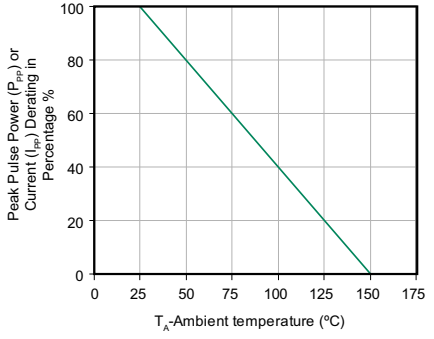


Figure 3 - Pulse Waveform

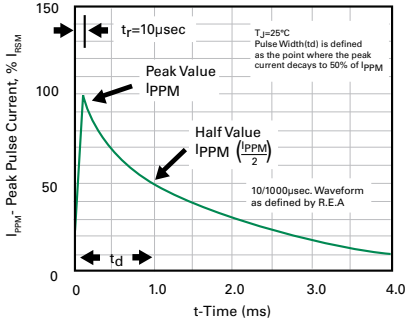


Figure 4 - Typical Junction Capacitance

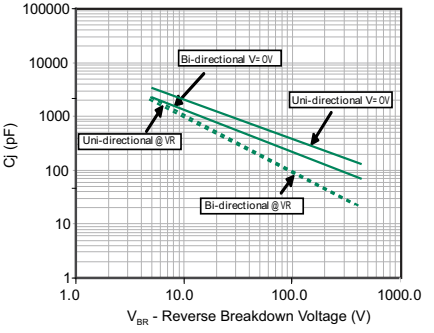


Figure 5 - Steady State Power Derating Curve

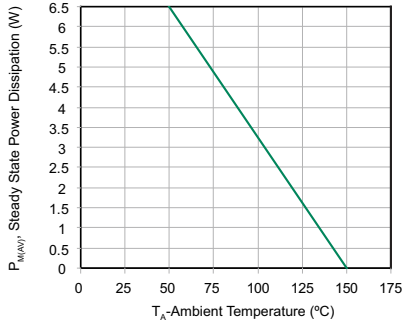
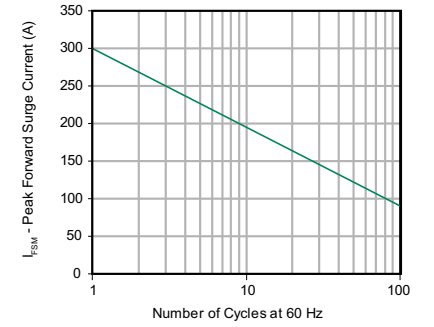


Figure 6 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only



The cruve graph is for reference only, can't be the basis for judgment(曲线图仅供参考)!

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