

5.0SMDJ12A/CA-5.0SMDJ170A/CA

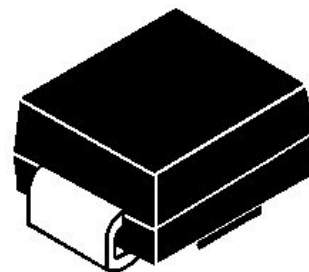
5000W Surface Mount

Transient Voltage

Suppressors

Features

- Working peak reverse voltage range –12V-- 170V
- Peak power dissipation 5000W @10 x 1000 us Pulse
- Low profile package.
- Excellent clamping capability.
- Glass passivated junction.
- Fast response time: typically less than 5 ns for Bi -direction, from 0 Volts to BV min
- Plastic material has UL flammability classification 94V-O
- RoHS compliant in lead-free versions



Mechanical Characteristics

CASE: Void-free, JEDEC DO-214AB Molded Plastic over glass passivated junction..

Mounting Position: Any

Polarity: by cathode band denotes uni-directional device, none cathode band denotes bi-directional device.

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

Maximum Ratings And Characteristics @ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us Waveform (Note 1, 2, FIG.1)	P _{PPM}	5000	W
Peak Pulse Current of on 10/1000us 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) (Note 2. 3)	I _{FSM}	300	Amps
Operating Junction Temperature Range	T _J	-55 to 150	°C
Storage Temperature Range	T _{STG}	-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 (0.03mm thick) Copper Pads to each terminal.
3. 8.3 ms single half sine-wave, or equivalent square wave, Duty cycle=4 pluses per minute maximum.

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Electrical Specification @ Tamb 25°C

Type Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I _T	Breakdown Voltage Max. @ I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RMW}
(Uni)	(Bi)	(Uni)	(Bi)	V _{RMW} (V)	V _{BR MIN} (V)	V _{BR MAX} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (uA)
5.0SMDJ12A	5.0SMDJ12CA	5PEP	5BEP	12	13.3	14.7	1.0	19.9	251	5.0
5.0SMDJ13A	5.0SMDJ13CA	5PEQ	5BEQ	13	14.4	15.9	1.0	21.5	232	5.0
5.0SMDJ14A	5.0SMDJ14CA	5PER	5BER	14	15.6	17.2	1.0	23.2	215	5.0
5.0SMDJ15A	5.0SMDJ15CA	5PES	5BES	15	16.7	18.5	1.0	24.4	206	5.0
5.0SMDJ16A	5.0SMDJ16CA	5PET	5BET	16	17.8	20.5	1.0	26.0	192	5.0
5.0SMDJ17A	5.0SMDJ17CA	5PEU	5BEU	17	18.9	20.9	1.0	27.5	181	5.0
5.0SMDJ18A	5.0SMDJ18CA	5PEV	5BEV	18	20.0	22.1	1.0	29.2	172	5.0
5.0SMDJ20A	5.0SMDJ20CA	5PEW	5BEW	20	22.2	24.5	1.0	32.4	154	5.0
5.0SMDJ22A	5.0SMDJ22CA	5PEX	5BEX	22	24.4	26.9	1.0	35.5	141	5.0
5.0SMDJ24A	5.0SMDJ24CA	5PEZ	5BEZ	24	26.7	29.5	1.0	38.9	128	5.0
5.0SMDJ26A	5.0SMDJ26CA	5PFE	5BFE	26	28.9	31.9	1.0	42.1	119	5.0
5.0SMDJ28A	5.0SMDJ28CA	5PFG	5BFG	28	31.1	34.4	1.0	45.4	110	5.0
5.0SMDJ30A	5.0SMDJ30CA	5PFK	5BFK	30	33.3	36.8	1.0	48.4	103	5.0
5.0SMDJ33A	5.0SMDJ33CA	5PFM	5BFM	33	36.7	40.6	1.0	53.3	94	5.0
5.0SMDJ36A	5.0SMDJ36CA	5PFP	5BFP	36	40.0	44.2	1.0	58.1	85	5.0
5.0SMDJ40A	5.0SMDJ40CA	5PFR	5BFR	40	44.4	49.1	1.0	64.5	78	5.0
5.0SMDJ43A	5.0SMDJ43CA	5PFT	5BFT	43	47.8	52.8	1.0	69.4	72	5.0
5.0SMDJ45A	5.0SMDJ45CA	5PFV	5BFV	45	50.0	55.3	1.0	72.7	69	5.0
5.0SMDJ48A	5.0SMDJ48CA	5PFX	5BFX	48	53.3	61.3	1.0	77.4	65	5.0
5.0SMDJ51A	5.0SMDJ51CA	5PFZ	5BFZ	51	56.7	65.2	1.0	82.4	61	5.0
5.0SMDJ54A	5.0SMDJ54CA	5PGE	5BGE	54	60.0	69.0	1.0	87.1	57	5.0
5.0SMDJ58A	5.0SMDJ58CA	5PGG	5BGG	58	64.4	74.1	1.0	93.6	53	5.0
5.0SMDJ60A	5.0SMDJ60CA	5PGK	5BGK	60	66.7	76.7	1.0	96.8	52	5.0
5.0SMDJ64A	5.0SMDJ64CA	5PGM	5BGM	64	71.1	81.8	1.0	103	49	5.0
5.0SMDJ70A	5.0SMDJ70CA	5PGP	5BGP	70	77.8	89.5	1.0	113	44	5.0
5.0SMDJ75A	5.0SMDJ75CA	5PGR	5BGR	75	83.0	95.8	1.0	121	41	5.0
5.0SMDJ78A	5.0SMDJ78CA	5PGT	5BGT	78	86.0	99.7	1.0	126	40	5.0
5.0SMDJ85A	5.0SMDJ85CA	5PGV	5BGV	85	94.0	108.2	1.0	137	36	5.0
5.0SMDJ90A	5.0SMDJ90CA	5PGX	5BGX	90	100	115.5	1.0	146	34	5.0
5.0SMDJ100A	5.0SMDJ100CA	5PGZ	5BGZ	100	111	128.0	1.0	162	31	5.0
5.0SMDJ110A	5.0SMDJ110CA	5PHE	5BHE	110	122	140.5	1.0	177	28	5.0
5.0SMDJ120A	5.0SMDJ120CA	5PHG	5BHG	120	133	153.0	1.0	193	25	5.0
5.0SMDJ130A	5.0SMDJ130CA	5PHK	5BHK	130	144	165.5	1.0	209	24	5.0
5.0SMDJ150A	5.0SMDJ150CA	5PHM	5BHM	150	167	192.5	1.0	243	21	5.0
5.0SMDJ160A	5.0SMDJ160CA	5PHP	5BHP	160	178	205.0	1.0	259	19	5.0
5.0SMDJ170A	5.0SMDJ170CA	5PHR	5BHR	170	189	217.5	1.0	275	18	5.0

※ For Bi-directional type having VRWM of 20 Volts and less, the IR limit is double

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Ratings and Characteristic Curves $T_A=25^\circ\text{C}$ unless otherwise noted

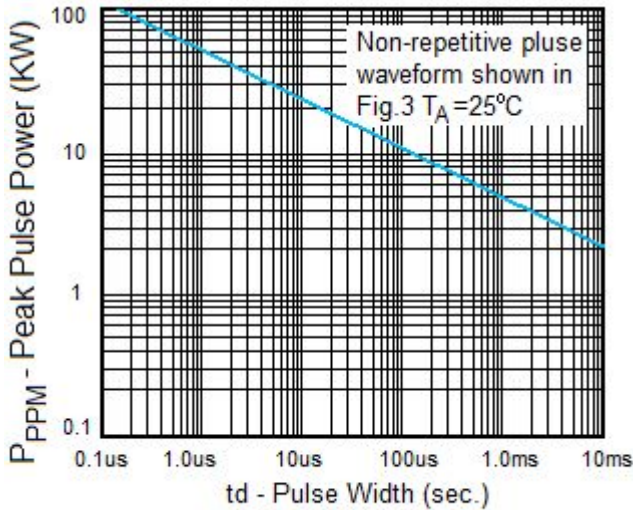


Fig. 1 Peak Pulse Power Rating

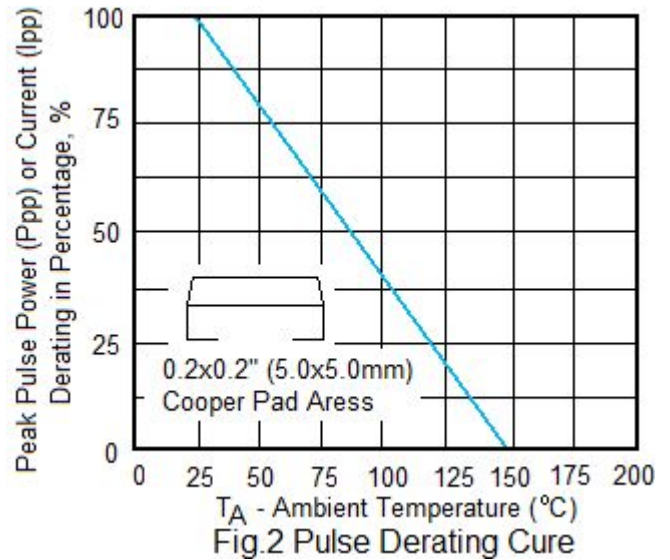


Fig.2 Pulse Derating Curve

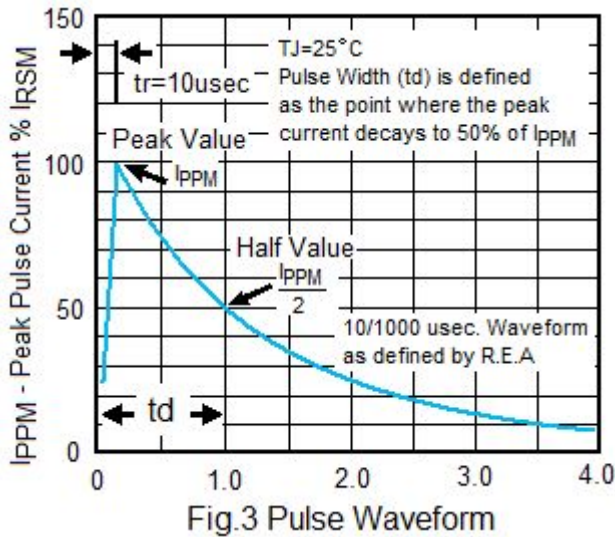


Fig.3 Pulse Waveform

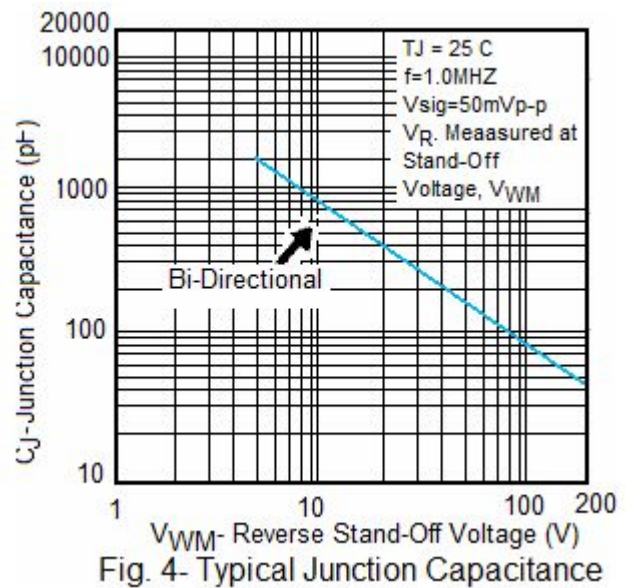
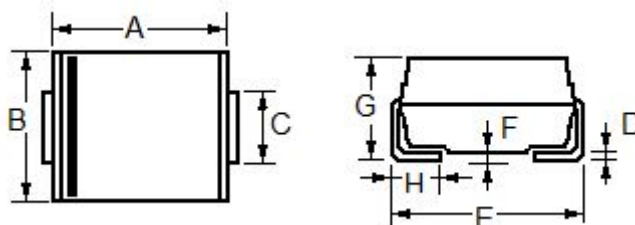


Fig. 4- Typical Junction Capacitance

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Package Outline Dimensions and Pad Layouts

DO-214AB (SMC)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	6.60	7.11	0.260	0.280
B	5.59	6.22	0.220	0.245
C	2.90	3.20	0.114	0.126
D	0.125	0.305	0.006	0.012
E	7.75	8.13	0.305	0.320
F	----	0.203	----	0.008
G	2.06	2.62	0.079	0.103
H	0.76	1.52	0.030	0.060