

Features

- 5000W peak pulse power capability with a 10/1000 μ s waveform
- Excellent clamping capability
- Excellent clamping capability and fast response time
- Moisture sensitivity: level 1, per J-STD-020
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC
- IEC 61000-4-2 ESD 30kV(Air), 30kV (Contact)
- ESD protection of data lines in accordance with IEC 61000-4-2
- EFT protection of data lines in accordance with IEC 61000-4-4



DO-214AB(SMC)



RoHS
COMPLIANT

Applications

For use in sensitive electronics protection against voltage transients induced by lightning or inductive load switching. Key applications include protection of I/O interfaces, industrial and LED lighting applications, DC power buses, and other vulnerable circuits used in consumer electronics.

Mechanical Data

Case: DO-214AB (SMC)

Molding compound meets UL 94 V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation with a 10/1000 μ s Waveform ¹	P _{PPM}	5000	W
Peak Pulse Current with a 10/1000 μ s Waveform ¹	I _{PPM}	See Next Table	A
Maximum Instantaneous Forward Voltage @ I _{PP} = 100A	V _F	5	V
Thermal Resistance, Junction to Ambient ²	R _{θJA}	100	°C/W
Thermal Resistance, Junction to Mount ³	R _{θJM}	20.8	°C/W
Storage Temperature Range	T _{STG}	- 55 to +150	°C
Operating Junction and Temperature Range	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 minimum recommended pad layout

3. Mounted on infinite heat sink.

Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Marking Code		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max Reverse Leakage Current	Max. Clamp Voltage	Peak Pulse Current	
					V _{BR} @ I _T						
		UNI	BI		V _{WM}			I _T	I _D @ V _{WM}	V _C @ I _{PPM}	I _{PPM}
					Min	Max	V				
		V	V	V	mA	μA	V	A			
5.0SMCJ11A	5.0SMCJ11CA	JDZ	KDZ	11	12.2	13.5	10	800	18.2	274.7	
5.0SMCJ12A	5.0SMCJ12CA	JEE	KEE	12	13.3	14.7	10	800	19.9	252	
5.0SMCJ13A	5.0SMCJ13CA	JEG	KEG	13	14.4	15.9	10	500	21.5	233	
5.0SMCJ14A	5.0SMCJ14CA	JEK	KEK	14	15.6	17.2	10	200	23.2	216	
5.0SMCJ15A	5.0SMCJ15CA	JEM	KEM	15	16.7	18.5	1	100	24.4	205	
5.0SMCJ16A	5.0SMCJ16CA	JEP	KEP	16	17.8	19.7	1	50	26	193	
5.0SMCJ17A	5.0SMCJ17CA	JER	KER	17	18.9	20.9	1	20	27.6	181	
5.0SMCJ18A	5.0SMCJ18CA	JET	KET	18	20	22.1	1	10	29.2	172	
5.0SMCJ20A	5.0SMCJ20CA	JEV	KEV	20	22.2	24.5	1	5	32.4	155	
5.0SMCJ22A	5.0SMCJ22CA	JEX	KEX	22	24.4	26.9	1	5	35.5	141	
5.0SMCJ24A	5.0SMCJ24CA	JEZ	KEZ	24	26.7	29.5	1	5	38.9	129	
5.0SMCJ26A	5.0SMCJ26CA	JFE	KFE	26	28.9	31.9	1	5	42.1	119	
5.0SMCJ28A	5.0SMCJ28CA	JFG	KFG	28	31.1	34.4	1	5	45.4	110	
5.0SMCJ30A	5.0SMCJ30CA	JFK	KFK	30	33.3	36.8	1	5	48.4	103	
5.0SMCJ33A	5.0SMCJ33CA	JFM	KFM	33	36.7	40.6	1	5	53.3	93.9	
5.0SMCJ36A	5.0SMCJ36CA	JFP	KFP	36	40	44.2	1	5	58.1	86.1	
5.0SMCJ40A	5.0SMCJ40CA	JFR	KFR	40	44.4	49.1	1	5	64.5	77.6	
5.0SMCJ43A	5.0SMCJ43CA	JFT	KFT	43	47.8	52.8	1	5	69.4	72.1	
5.0SMCJ45A	5.0SMCJ45CA	JFV	KFV	45	50	55.3	1	5	72.7	68.8	
5.0SMCJ48A	5.0SMCJ48CA	JFX	KFX	48	53.3	58.9	1	5	77.4	64.6	
5.0SMCJ51A	5.0SMCJ51CA	JFZ	KFZ	51	56.7	62.7	1	5	82.4	60.7	
5.0SMCJ54A	5.0SMCJ54CA	JGE	KGE	54	60	66.3	1	5	87.1	57.4	
5.0SMCJ58A	5.0SMCJ58CA	JGG	KGG	58	64.4	71.2	1	5	93.6	53.5	
5.0SMCJ60A	5.0SMCJ60CA	JGK	KGK	60	66.7	73.7	1	5	96.8	51.7	
5.0SMCJ64A	5.0SMCJ64CA	JGM	KGM	64	71.1	78.6	1	5	103	48.6	
5.0SMCJ70A	5.0SMCJ70CA	JGP	KGP	70	77.8	86	1	5	113	44.3	
5.0SMCJ75A	5.0SMCJ75CA	JGR	KGR	75	83.3	92.1	1	5	121	41.3	
5.0SMCJ78A	5.0SMCJ78CA	JGT	KGT	78	86.7	95.8	1	5	126	39.7	
5.0SMCJ85A	5.0SMCJ85CA	JGV	KGV	85	94.4	104	1	5	137	36.5	
5.0SMCJ90A	5.0SMCJ90CA	JGX	KGX	90	100	111	1	5	146	34.3	
5.0SMCJ100A	5.0SMCJ100CA	JGZ	KGZ	100	111	123	1	5	162	30.9	
5.0SMCJ110A	5.0SMCJ110CA	JHE	KHE	110	122	135	1	5	177	28.3	
5.0SMCJ120A	5.0SMCJ120CA	JHG	KHG	120	133	147	1	5	193	25.9	
5.0SMCJ130A	5.0SMCJ130CA	JHK	KHK	130	144	159	1	5	209	23.9	
5.0SMCJ140A	5.0SMCJ140CA	JHB	KHB	140	156	171	1	5	226	22.2	
5.0SMCJ150A	5.0SMCJ150CA	JHM	KHM	150	167	185	1	5	243	20.6	
5.0SMCJ160A	5.0SMCJ160CA	JHP	KHP	160	178	197	1	5	259	19.3	
5.0SMCJ170A	5.0SMCJ170CA	JHR	KHR	170	189	209	1	5	275	18.2	

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

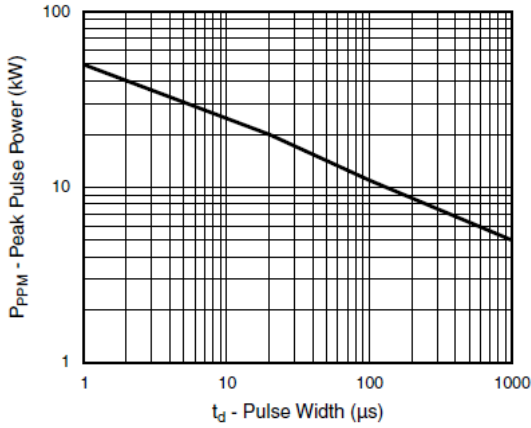


Figure 1. Peak Pulse Power Rating Curve

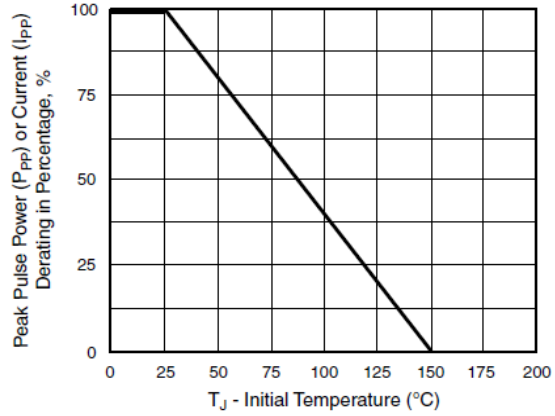


Figure 2. Pulse Power or Current Vs. Initial Junction Temperature

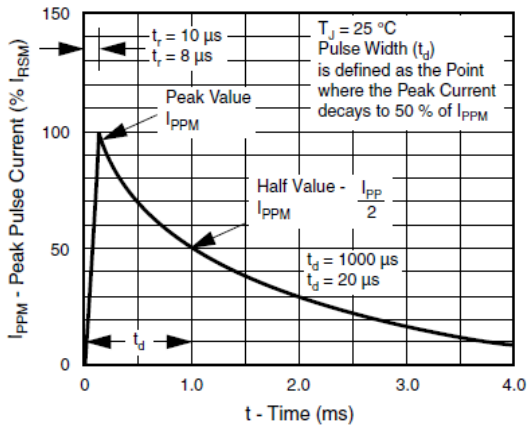


Figure 3. Pulse Waveform

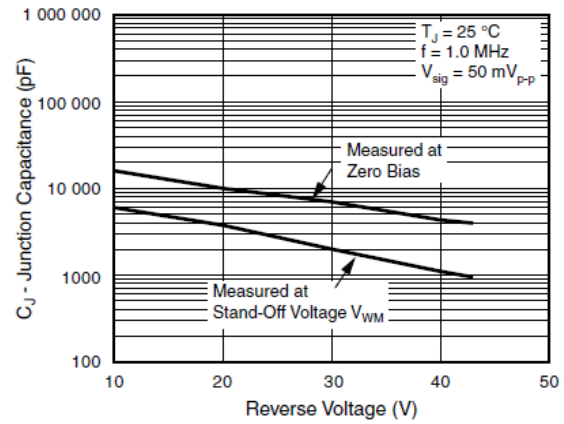


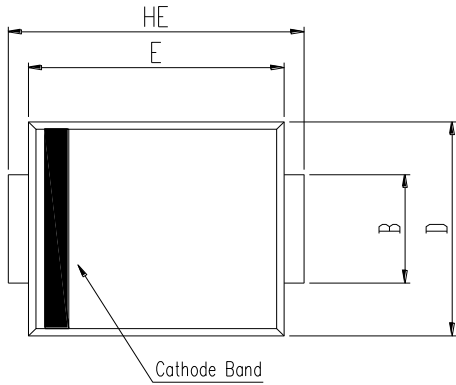
Figure 4 Typical Junction Capacitance

5.0SMCJx Series

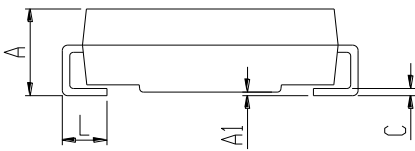
Transient Voltage Suppressors

Peak Pulse Power 5000W Stand-off Voltage 11V to 170V

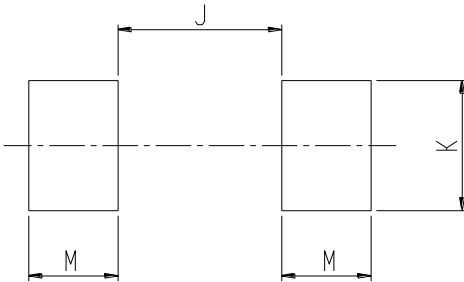
Package Outline Dimensions DO-214AB(SMC)



DIM	SMC (DO-214AB)			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.00	2.62	0.079	0.103
A1	0.00	0.20	0.000	0.008
B	2.92	3.07	0.115	0.121
C	0.15	0.31	0.006	0.012
D	5.59	6.22	0.220	0.245
E	6.60	7.11	0.260	0.280
HE	7.75	8.13	0.305	0.320
L	0.76	1.52	0.030	0.060



Recommended Pad Layout



DIM	Recommended Pad Layout (Reference ONLY)			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	-	4.60	-	0.181
K	3.20	-	0.126	-
M	2.00	-	0.079	-