SMDJ5.0A(CA) - SMDJ170A(CA)

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR DIODE

VOLTAGE RANGE: 5.0 - 170V
POWER: 3000Watts

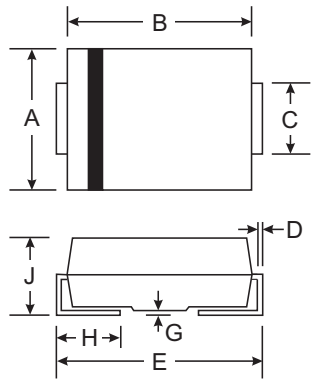
Features

- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O

Mechanical Data

- Case: SMC/DO-214AB, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.21 grams (approx.)

RoHS COMPLIANT



SMC/DO-214AB		
Dim	**Min**	**Max**
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation 10/1000µS Waveform (Note 1, 2) Figure 3	P_{PPM}	3000	W
Peak Pulse Current on 10/1000µS Waveform (Note 1) Figure 4	I_{PPM}	See Table 1	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 2, 3)	I_{FSM}	100	A
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	°C

Note:

1. Non-repetitive current pulse, per Figure 4 and derated above T_A = 25°C per Figure 1.
2. Mounted on 8.0mm^2 copper pads to each terminal.
3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum.

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)
SMDJ5.0	SMDJ5.0C	HDD	IDD	5.0	6.40	7.55	10	9.6	312.5	800.0
SMDJ5.0A	SMDJ5.0CA	HDE	IDE	5.0	6.40	7.25	10	9.2	326.1	800.0
SMDJ6.0	SMDJ6.0C	HDF	IDF	6.0	6.67	8.45	10	11.4	263.2	800.0
SMDJ6.0A	SMDJ6.0CA	HDG	IDG	6.0	6.67	7.67	10	10.3	291.3	800.0
SMDJ6.5	SMDJ6.5C	HDH	IDH	6.5	7.22	9.14	10	12.3	243.9	500.0
SMDJ6.5A	SMDJ6.5CA	HDK	IDK	6.5	7.22	8.30	10	11.2	267.9	500.0
SMDJ7.0	SMDJ7.0C	HDL	IDL	7.0	7.78	9.86	10	13.3	225.6	200.0
SMDJ7.0A	SMDJ7.0CA	HDM	IDM	7.0	7.78	8.95	10	12.0	250.0	200.0
SMDJ7.5	SMDJ7.5C	HDN	IDN	7.5	8.33	10.67	1.0	14.3	209.8	100.0
SMDJ7.5A	SMDJ7.5CA	HDP	IDP	7.5	8.33	9.58	1.0	12.9	232.6	100.0
SMDJ8.0	SMDJ8.0C	HDQ	IDQ	8.0	8.89	11.3	1.0	15.0	200.0	50.0
SMDJ8.0A	SMDJ8.0CA	HDR	IDR	8.0	8.89	10.23	1.0	13.6	220.6	50.0
SMDJ8.5	SMDJ8.5C	HDS	IDS	8.5	9.44	11.92	1.0	15.9	188.7	20.0
SMDJ8.5A	SMDJ8.5CA	HDT	IDT	8.5	9.44	10.82	1.0	14.4	208.3	20.0
SMDJ9.0	SMDJ9.0C	HDU	IDU	9.0	10.0	12.6	1.0	16.9	177.5	10.0
SMDJ9.0A	SMDJ9.0CA	HDV	IDV	9.0	10.0	11.5	1.0	15.4	194.8	10.0
SMDJ10	SMDJ10C	HDW	IDW	10	11.1	14.1	1.0	18.8	159.6	5.0
SMDJ10A	SMDJ10CA	HDX	IDX	10	11.1	12.8	1.0	17.0	176.5	5.0
SMDJ11	SMDJ11C	HDY	IDY	11	12.2	15.4	1.0	20.1	149.3	5.0
SMDJ11A	SMDJ11CA	HDZ	IDZ	11	12.2	14.0	1.0	18.2	164.8	5.0
SMDJ12	SMDJ12C	HED	IED	12	13.3	16.9	1.0	22.0	136.4	5.0
SMDJ12A	SMDJ12CA	HEE	IEE	12	13.3	15.3	1.0	19.9	150.8	5.0
SMDJ13	SMDJ13C	HEF	IEF	13	14.4	18.2	1.0	23.8	126.1	5.0
SMDJ13A	SMDJ13CA	HEG	IEG	13	14.4	16.5	1.0	21.5	139.5	5.0
SMDJ14	SMDJ14C	HEH	IEH	14	15.6	19.8	1.0	25.8	116.3	5.0
SMDJ14A	SMDJ14CA	HEK	IEK	14	15.6	17.9	1.0	23.2	129.3	5.0
SMDJ15	SMDJ15C	HEL	IEL	15	16.7	21.1	1.0	26.9	111.5	5.0
SMDJ15A	SMDJ15CA	HEM	IEM	15	16.7	19.2	1.0	24.4	123.0	5.0
SMDJ16	SMDJ16C	HEN	IEN	16	17.8	22.6	1.0	28.8	104.2	5.0
SMDJ16A	SMDJ16CA	HEP	IEP	16	17.8	20.5	1.0	26.0	115.4	5.0
SMDJ17	SMDJ17C	HEQ	IEQ	17	18.9	23.9	1.0	30.5	98.4	5.0
SMDJ17A	SMDJ17CA	HER	IER	17	18.9	21.7	1.0	27.6	108.7	5.0
SMDJ18	SMDJ18C	HES	IES	18	20.0	25.3	1.0	32.2	93.2	5.0
SMDJ18A	SMDJ18CA	HET	IET	18	20.0	23.3	1.0	29.2	102.7	5.0
SMDJ20	SMDJ20C	HEU	IEU	20	22.2	28.1	1.0	35.8	83.8	5.0
SMDJ20A	SMDJ20CA	HEV	IEV	20	22.2	25.5	1.0	32.4	92.6	5.0

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)
SMDJ22	SMDJ22C	HEW	IEW	22	24.4	30.9	1.0	39.4	76.1	5.0
SMDJ22A	SMDJ22CA	HEX	IEX	22	24.4	28.0	1.0	35.5	84.5	5.0
SMDJ24	SMDJ24C	HEY	IEY	24	26.7	33.8	1.0	43.0	69.8	5.0
SMDJ24A	SMDJ24CA	HEZ	IEZ	24	26.7	30.7	1.0	38.9	77.1	5.0
SMDJ26	SMDJ26C	HFD	IFD	26	28.9	36.6	1.0	46.6	64.4	5.0
SMDJ26A	SMDJ26CA	HFE	IFE	26	28.9	33.2	1.0	42.1	71.3	5.0
SMDJ28	SMDJ28C	HFF	IFF	28	31.1	39.4	1.0	50.0	60.0	5.0
SMDJ28A	SMDJ28CA	HFG	IFG	28	31.1	35.8	1.0	45.4	66.1	5.0
SMDJ30	SMDJ30C	HFH	IFH	30	33.3	42.2	1.0	53.5	56.1	5.0
SMDJ30A	SMDJ30CA	HFK	IFK	30	33.3	38.3	1.0	48.4	62.0	5.0
SMDJ33	SMDJ33C	HFL	IFL	33	36.7	46.5	1.0	59.0	50.8	5.0
SMDJ33A	SMDJ33CA	HFM	IFM	33	36.7	42.2	1.0	53.3	56.3	5.0
SMDJ36	SMDJ36C	HFN	IFN	36	40.0	50.7	1.0	64.3	46.7	5.0
SMDJ36A	SMDJ36CA	HFP	IFP	36	40.0	46.0	1.0	58.1	51.6	5.0
SMDJ40	SMDJ40C	HFQ	IFQ	40	44.4	56.3	1.0	71.4	42.0	5.0
SMDJ40A	SMDJ40CA	HFR	IFR	40	44.4	51.1	1.0	64.5	46.5	5.0
SMDJ43	SMDJ43C	HFS	IFS	43	47.8	60.5	1.0	76.7	39.1	5.0
SMDJ43A	SMDJ43CA	HFT	IFT	43	47.8	54.9	1.0	69.4	43.2	5.0
SMDJ45	SMDJ45C	HFU	IFU	45	50.0	63.3	1.0	80.3	37.4	5.0
SMDJ45A	SMDJ45CA	HFV	IFV	45	50.0	57.5	1.0	72.7	41.3	5.0
SMDJ48	SMDJ48C	HFW	IFW	48	53.3	67.5	1.0	85.5	35.1	5.0
SMDJ48A	SMDJ48CA	HFX	IFX	48	53.3	61.3	1.0	77.4	38.8	5.0
SMDJ51	SMDJ51C	HFY	IFY	51	56.7	71.8	1.0	91.1	32.9	5.0
SMDJ51A	SMDJ51CA	HFZ	IFZ	51	56.7	65.2	1.0	82.4	36.4	5.0
SMDJ54	SMDJ54C	HGD	IGD	54	60.0	76.0	1.0	96.3	31.2	5.0
SMDJ54A	SMDJ54CA	HGE	IGE	54	60.0	69.0	1.0	87.1	34.4	5.0
SMDJ58	SMDJ58C	HGF	IGF	58	64.4	81.6	1.0	103	29.1	5.0
SMDJ58A	SMDJ58CA	HGG	IGG	58	64.4	74.1	1.0	93.6	32.1	5.0
SMDJ60	SMDJ60C	HGH	IGH	60	66.7	84.5	1.0	107	28.0	5.0
SMDJ60A	SMDJ60CA	HGK	IGK	60	66.7	76.7	1.0	96.8	31.0	5.0
SMDJ64	SMDJ64C	HGL	IGL	64	71.1	90.1	1.0	114	26.3	5.0
SMDJ64A	SMDJ64CA	HGM	IGM	64	71.1	81.8	1.0	103	29.1	5.0
SMDJ70	SMDJ70C	HGN	IGN	70	77.8	98.6	1.0	125	24.0	5.0
SMDJ70A	SMDJ70CA	HGP	IGP	70	77.8	89.5	1.0	113	26.5	5.0
SMDJ75	SMDJ75C	HGQ	IGQ	75	83.0	105.7	1.0	134	22.4	5.0
SMDJ75A	SMDJ75CA	HGR	IGR	75	83.0	95.8	1.0	121	24.8	5.0

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)
SMDJ78	SMDJ78C	HGS	IGS	78	86.0	109.8	1.0	139	21.6	5.0
SMDJ78A	SMDJ78CA	HGT	IGT	78	86.0	99.7	1.0	126	23.8	5.0
SMDJ85	SMDJ85C	HGU	IGU	85	94.0	119.2	1.0	151	19.9	5.0
SMDJ85A	SMDJ85CA	HGV	IGV	85	94.0	108.2	1.0	137	21.9	5.0
SMDJ90	SMDJ90C	HGW	IGW	90	100	126.5	1.0	160	18.8	5.0
SMDJ90A	SMDJ90CA	HGX	IGX	90	100	115.5	1.0	146	20.5	5.0
SMDJ100	SMDJ100C	HGY	IGY	100	111	141.0	1.0	179	16.8	5.0
SMDJ100A	SMDJ100CA	HGZ	IGZ	100	111	128.0	1.0	162	18.5	5.0
SMDJ110	SMDJ110C	HHD	IHD	110	122	154.5	1.0	196	15.3	5.0
SMDJ110A	SMDJ110CA	HHE	IHE	110	122	140.5	1.0	177	16.9	5.0
SMDJ120	SMDJ120C	HHF	IHF	120	133	169.0	1.0	214	14.0	5.0
SMDJ120A	SMDJ120CA	HHG	IHG	120	133	153.0	1.0	193	15.5	5.0
SMDJ130	SMDJ130C	HHH	IHH	130	144	182.5	1.0	231	13.0	5.0
SMDJ130A	SMDJ130CA	HHK	IHK	130	144	165.5	1.0	209	14.4	5.0
SMDJ150	SMDJ150C	HHL	IHL	150	167	211.5	1.0	268	11.2	5.0
SMDJ150A	SMDJ150CA	HHM	IHM	150	167	192.5	1.0	243	12.3	5.0
SMDJ160	SMDJ160C	HHN	IHN	160	178	226.0	1.0	287	10.5	5.0
SMDJ160A	SMDJ160CA	HHP	IHP	160	178	205.0	1.0	259	11.6	5.0
SMDJ170	SMDJ170C	HHQ	IHQ	170	189	239.5	1.0	304	9.9	5.0
SMDJ170A	SMDJ170CA	HHR	IHR	170	189	217.5	1.0	275	10.9	5.0

Ratings and Characteristic Curves (TA=25^{O}C unlessotherwise noted)

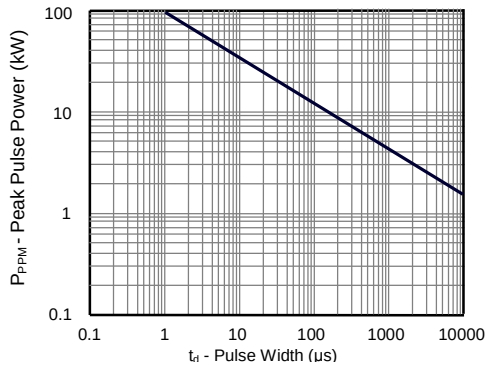


Figure 1 -PeakPulsePower Rating Curve

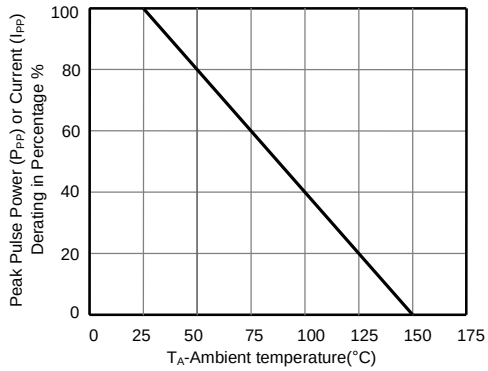


Figure 2 -Pulse DeratingCurve

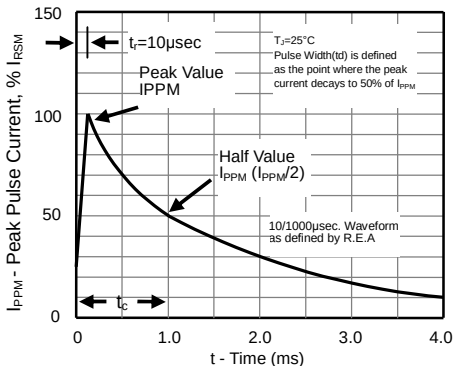


Figure 3 -Pulse Waveform

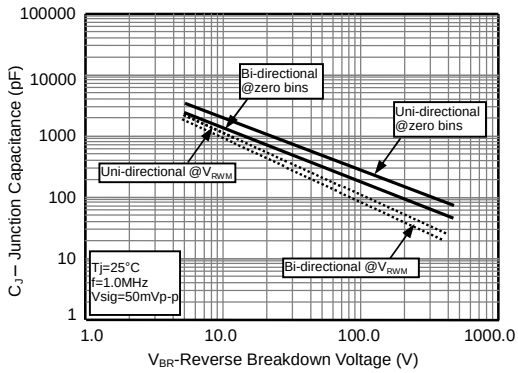


Figure 4 -TypicalJunction Capacitance

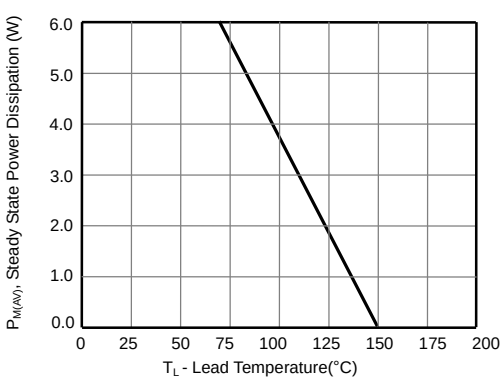


Figure 5-SteadyStatePower Derating Curve

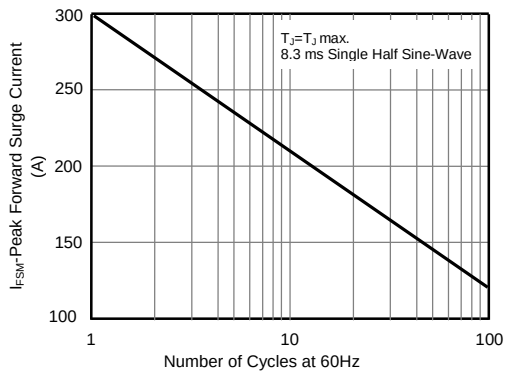


Figure 6 -Maximum Non-RepetitiveSurge Current

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