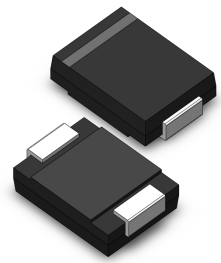
SMDJ5.0A(CA) - SMDJ440A(CA)

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR DIODE

VOLTAGE RANGE: 5.0 - 440V
POWER: 3000Watts



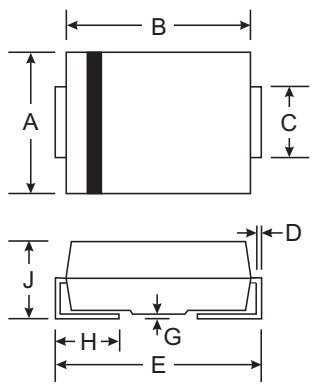
Features

- 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:DO-214AB(SMC)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208
- Marking: Date Code and Marking Code See Page 2
- Weight: 0.21 grams (approximate)

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 8.0mm² 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		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_{RWM}
(Uni)	(Bi)	V_{RWM}(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	5 0	6 40	7 30	10	9 6	312 50	1000
SMDJ5.0A	SMDJ5.0CA	5.0	6.40	7.00	10	9.2	326.09	1000
SMDJ6.0	SMDJ6.0C	6.0	6.67	8.15	10	11.4	263.16	1000
SMDJ6 0A	SMDJ6 0CA	6 0	6.67	7.37	10	10.3	291.26	1000
SMDJ6.5	SMDJ6.5C	6.5	7.22	8.82	10	12.3	243.90	500
SMDJ6.5A	SMDJ6.5CA	6.5	7.22	7.98	10	11.2	267.86	500
SMDJ7.0	SMDJ7.0C	7.0	7.78	9.51	10	13.3	225.56	200
SMDJ7.0A	SMDJ7.0CA	7.0	7.78	8.60	10	12.0	250.00	200
SMDJ7.5	SMDJ7.5C	7.5	8.33	10.20	1	14.3	209.79	100
SMDJ7.5A	SMDJ7.5CA	7.5	8.33	9.21	1	12.9	232.56	100
SMDJ8.0	SMDJ8.0C	8.0	8.89	10.90	1	15.0	200.00	50
SMDJ8.0A	SMDJ8.0CA	8.0	8.89	9.83	1	13.6	220.59	50
SMDJ8.5	SMDJ8.5C	8.5	9.44	11.50	1	15.9	188.68	25
SMDJ8.5A	SMDJ8.5CA	8.5	9.44	10.40	1	14.4	208.33	25
SMDJ9.0	SMDJ9.0C	9.0	10.00	12.20	1	16.9	177.51	10
SMDJ9.0A	SMDJ9.0CA	9.0	10.00	11.10	1	15.4	194.81	10
SMDJ10	SMDJ10C	10.0	11.10	13.60	1	18.8	159.57	5
SMDJ10A	SMDJ10CA	10.0	11.10	12.30	1	17.0	176.47	5
SMDJ11	SMDJ11C	11.0	12.20	14.90	1	20.1	149.25	5
SMDJ11A	SMDJ11CA	11.0	12.20	13.50	1	18.2	164.84	5
SMDJ12	SMDJ12C	12.0	13.30	16.30	1	22.0	136.36	5
SMDJ12A	SMDJ12CA	12.0	13.30	14.70	1	19.9	150.75	5
SMDJ13	SMDJ13C	13.0	14.40	17.60	1	23.8	126.05	5
SMDJ13A	SMDJ13CA	13.0	14.40	15.90	1	21.5	139.53	5
SMDJ14	SMDJ14C	14.0	15.60	19.10	1	25.8	116.28	5
SMDJ14A	SMDJ14CA	14.0	15.60	17.20	1	23.2	129.31	5
SMDJ15	SMDJ15C	15.0	16.70	20.40	1	26.9	111.52	5
SMDJ15A	SMDJ15CA	15.0	16.70	18.50	1	24.4	122.95	5
SMDJ16	SMDJ16C	16.0	17.80	21.80	1	28.8	104.17	5
SMDJ16A	SMDJ16CA	16.0	17.80	19.70	1	26.0	115.38	5
SMDJ17	SMDJ17C	17.0	18.90	23.10	1	30.5	98.36	5
SMDJ17A	SMDJ17CA	17.0	18.90	20.90	1	27.6	108.70	5
SMDJ18	SMDJ18C	18.0	20.00	24.40	1	32.2	93.17	5
SMDJ18A	SMDJ18CA	18.0	20.00	22.10	1	29.2	102.74	5
SMDJ19	SMDJ19C	19.0	21.13	25.76	1	34.0	88.21	5
SMDJ19A	SMDJ19CA	19.0	21.10	23.30	1	30.8	97.47	5
SMDJ20	SMDJ20C	20.0	22.20	27.10	1	35.8	83.80	5
SMDJ20A	SMDJ20CA	20.0	22.20	24.50	1	32.4	92.59	5
SMDJ22	SMDJ22C	22.0	24.40	29.80	1	39.4	76.14	5
SMDJ22A	SMDJ22CA	22.0	24.40	26.90	1	35.5	84.51	5
SMDJ24	SMDJ24C	24.0	26.70	32.60	1	43.0	69.77	5
SMDJ24A	SMDJ24CA	24.0	26.70	29.50	1	38.9	77.12	5
SMDJ26	SMDJ26C	26.0	28.90	35.30	1	46.6	64.38	5
SMDJ26A	SMDJ26CA	26.0	28.90	31.90	1	42.1	71.26	5
SMDJ28	SMDJ28C	28.0	31.10	38.00	1	50.0	60.00	5
SMDJ28A	SMDJ28CA	28.0	31.10	34.40	1	45.4	66.08	5
SMDJ30	SMDJ30C	30.0	33.30	40.70	1	53.5	56.07	5
SMDJ30A	SMDJ30CA	30.0	33.30	36.80	1	48.4	61.98	5
SMDJ33	SMDJ33C	33.0	36.70	44.90	1	59.0	50.85	5
SMDJ33A	SMDJ33CA	33.0	36.70	40.60	1	53.3	56.29	5
SMDJ36	SMDJ36C	36.0	40.00	48.90	1	64.3	46.66	5
SMDJ36A	SMDJ36CA	36.0	40.00	44.20	1	58.1	51.64	5
SMDJ40	SMDJ40C	40.0	44.40	54.30	1	71.4	42.02	5
SMDJ40A	SMDJ40CA	40.0	44.40	49.10	1	64.5	46.51	5
SMDJ43	SMDJ43C	43.0	47.80	58.40	1	76.7	39.11	5
SMDJ43A	SMDJ43CA	43 0	47 80	52 80	1	69 4	43 23	5

TYPE		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_{RWM}
(Uni)	(Bi)	V_{RWM}(V)	$V_{BR\ MIN}$(V)	$V_{BR\ MAX}$(V)	I_T (mA)	V_C(V)	I_{PP}(A)	I_R(uA)
SMDJ45	SMDJ45C	45.0	50.00	61.10	1	80.3	37.36	5
SMDJ45A	SMDJ45CA	45.0	50.00	55.30	1	72.7	41.27	5
SMDJ48	SMDJ48C	48.0	53.30	65.10	1	85.5	35.09	5
SMDJ48A	SMDJ48CA	48.0	53.30	58.90	1	77.4	38.76	5
SMDJ51	SMDJ51C	51.0	56.70	69.30	1	91.1	32.93	5
SMDJ51A	SMDJ51CA	51.0	56.70	62.70	1	82.4	36.41	5
SMDJ54	SMDJ54C	54.0	60.00	73.30	1	96.3	31.15	5
SMDJ54A	SMDJ54CA	54.0	60.00	66.30	1	87.1	34.44	5
SMDJ58	SMDJ58C	58.0	64.40	78.70	1	103.0	29.13	5
SMDJ58A	SMDJ58CA	58.0	64.40	71.20	1	93.6	32.05	5
SMDJ60	SMDJ60C	60.0	66.70	81.50	1	107.0	28.04	5
SMDJ60A	SMDJ60CA	60.0	66.70	73.70	1	96.8	30.99	5
SMDJ64	SMDJ64C	64.0	71.10	86.90	1	114.0	26.32	5
SMDJ64A	SMDJ64CA	64.0	71.10	78.60	1	103.0	29.13	5
SMDJ70	SMDJ70C	70.0	77.80	95.10	1	125.0	24.00	5
SMDJ70A	SMDJ70CA	70.0	77.80	86.00	1	113.0	26.55	5
SMDJ75	SMDJ75C	75.0	83.30	102.00	1	134.0	22.39	5
SMDJ75A	SMDJ75CA	75.0	83.30	92.10	1	121.0	24.79	5
SMDJ78	SMDJ78C	78.0	86.70	106.00	1	139.0	21.58	5
SMDJ78A	SMDJ78CA	78.0	86.70	95.80	1	126.0	23.81	5
SMDJ80	SMDJ80C	80.0	88.96	108.80	1	143.2	20.95	5
SMDJ80A	SMDJ80CA	80.0	88.80	97.60	1	129.6	23.15	5
SMDJ85	SMDJ85C	85.0	94.40	115.00	1	151.0	19.87	5
SMDJ85A	SMDJ85CA	85.0	94.40	104.00	1	137.0	21.90	5
SMDJ90	SMDJ90C	90.0	100.00	122.00	1	160.0	18.75	5
SMDJ90A	SMDJ90CA	90.0	100.00	111.00	1	146.0	20.55	5
SMDJ100	SMDJ100C	100.0	111.00	136.00	1	179.0	16.76	5
SMDJ100A	SMDJ100CA	100.0	111.00	123.00	1	162.0	18.52	5
SMDJ110	SMDJ110C	110.0	122.00	149.00	1	196.0	15.31	5
SMDJ110A	SMDJ110CA	110.0	122.00	135.00	1	177.0	16.95	5
SMDJ120	SMDJ120C	120.0	133.00	163.00	1	214.0	14.02	5
SMDJ120A	SMDJ120CA	120.0	133.00	147.00	1	193.0	15.54	5
SMDJ130	SMDJ130C	130.0	144.00	176.00	1	231.0	12.99	5
SMDJ130A	SMDJ130CA	130.0	144.00	159.00	1	209.0	14.35	5
SMDJ140	SMDJ140C	140.0	155.68	190.40	1	250.6	11.97	5
SMDJ140A	SMDJ140CA	140.0	155.00	171.00	1	226.8	13.23	5
SMDJ150	SMDJ150C	150.0	167.00	204.00	1	268.0	11.19	5
SMDJ150A	SMDJ150CA	150.0	167.00	185.00	1	243.0	12.35	5
SMDJ160	SMDJ160C	160.0	178.00	218.00	1	287.0	10.45	5
SMDJ160A	SMDJ160CA	160.0	178.00	197.00	1	259.0	11.58	5
SMDJ170	SMDJ170C	170.0	189.00	231.00	1	304.0	9.87	5
SMDJ170A	SMDJ170CA	170.0	189.00	209.00	1	275.0	10.91	5
SMDJ180	SMDJ180C	180.0	201.00	244.80	1	322.2	9.31	5
SMDJ180A	SMDJ180CA	180.0	201.00	220.00	1	291.6	10.29	5
SMDJ190	SMDJ190C	190.0	211.21	258.40	1	340.1	8.82	5
SMDJ190A	SMDJ190CA	190.0	211.00	232.00	1	307.8	9.75	5
SMDJ200A	SMDJ200CA	200.0	224.00	247.00	1	324.0	9.26	5
SMDJ220A	SMDJ220CA	220.0	246.00	272.00	1	356.0	8.43	5
SMDJ250A	SMDJ250CA	250.0	279.00	309.00	1	405.0	7.41	5
SMDJ300A	SMDJ300CA	300.0	335.00	371.00	1	486.0	6.17	5
SMDJ350A	SMDJ350CA	350.0	391.00	432.00	1	567.0	5.29	5
SMDJ400A	SMDJ400CA	400.0	447.00	494.00	1	648.0	4.63	5
SMDJ440A	SMDJ440CA	440.0	492.00	543.00	1	713.0	4.21	5

Note

1. Suffix 'A ' denotes 5% tolerance de es 10%olerance de vice
2. Add suffix 'C 'or ' CA ' after part number to specify Bi directional devices
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double

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

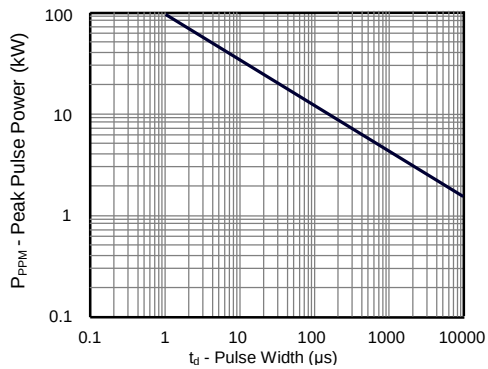


Figure 1 -PeakPulsePower Rating Curve

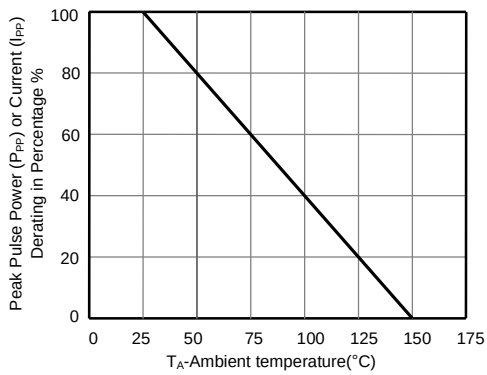


Figure 2 -Pulse DeratingCurve

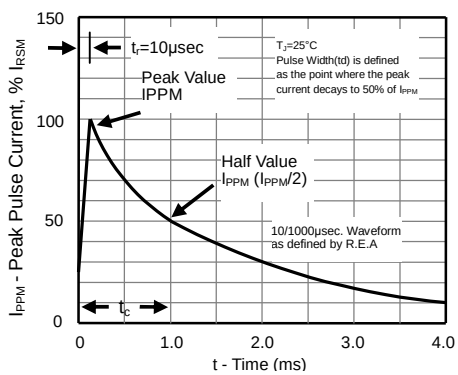


Figure 3 -Pulse Waveform

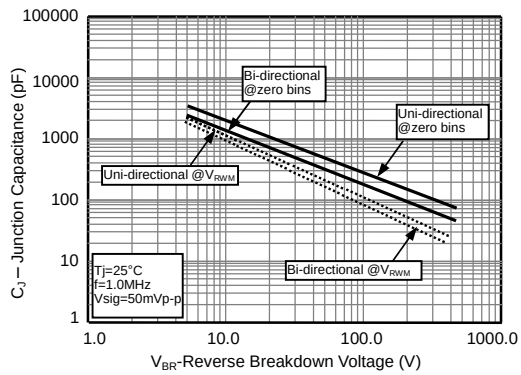


Figure 4 -TypicalJunction Capacitance

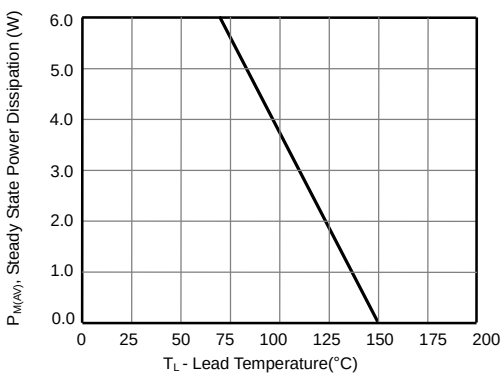


Figure 5-SteadyStatePower Derating Curve

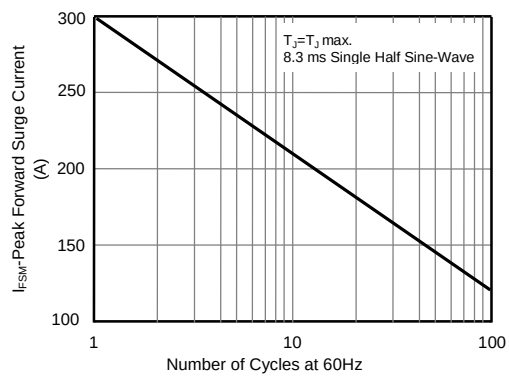


Figure 6 -Maximum Non-RepetitiveSurge Current