



SMCJ5.0A(CA) - SMCJ440A(CA)

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR DIODE

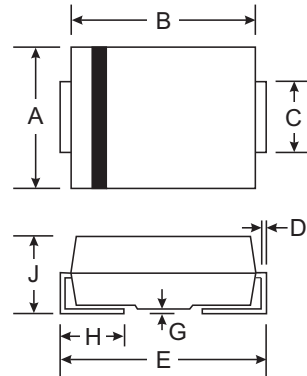
VOLTAGE RANGE: 5.0 - 440 V
POWER: 1500Watts

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.)



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 @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above $T_A = 25^\circ\text{C}$) (Note 1)	P_{PK}	1500	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I_{FSM}	200	A
Steady State Power Dissipation @ $T_L = 75^\circ\text{C}$	$PM_{(AV)}$	5.0	W
Instantaneous Forward Voltage @ $I_{PP} = 100\text{A}$ (Notes 1 & 3)	V_F	See Note 5	V
Operating Temperature Range	T_j	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +175	$^\circ\text{C}$

NOTES:1. Non-repetitive current pulse, per Fig. 3 and derated above $T_A = 25^\circ\text{C}$ per Fig. 1.

2. Thermal Resistance junction to Lead.

3. 8.3ms single half-wave duty cycle=4 pulses per minutes maximum (uni-directional units only).



TYPE		Reverse S tand-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)
SMCJ5.0	SMCJ5.0C	5.0	6.40	7.55	10.0	9.6	156.3	800.0
SMCJ5.0A	SMCJ5.0CA	5.0	6.40	7.25	10.0	9.2	163.0	800.0
SMCJ6.0	SMCJ6.0C	6.0	6.67	8.45	10.0	11.4	131.6	800.0
SMCJ6.0A	SMCJ6.0CA	6.0	6.67	7.67	10.0	10.3	145.6	800.0
SMCJ6.5	SMCJ6.5C	6.5	7.22	9.14	10.0	12.3	122.0	500.0
SMCJ6.5A	SMCJ6.5CA	6.5	7.22	8.30	10.0	11.2	133.9	500.0
SMCJ7.0	SMCJ7.0C	7.0	7.78	9.86	10.0	13.3	112.8	200.0
SMCJ7.0A	SMCJ7.0CA	7.0	7.78	8.95	10.0	12.0	125.0	200.0
SMCJ7.5	SMCJ7.5C	7.5	8.33	10.67	1.0	14.3	104.9	100.0
SMCJ7.5A	SMCJ7.5CA	7.5	8.33	9.58	1.0	12.9	116.3	100.0
SMCJ8.0	SMCJ8.0C	8.0	8.89	11.3	1.0	15.0	100.0	50.0
SMCJ8.0A	SMCJ8.0CA	8.0	8.89	10.23	1.0	13.6	110.3	50.0
SMCJ8.5	SMCJ8.5C	8.5	9.44	11.92	1.0	15.9	94.3	20.0
SMCJ8.5A	SMCJ8.5CA	8.5	9.44	10.82	1.0	14.4	104.2	20.0
SMCJ9.0	SMCJ9.0C	9.0	10.0	12.6	1.0	16.9	88.8	10.0
SMCJ9.0A	SMCJ9.0CA	9.0	10.0	11.5	1.0	15.4	97.4	10.0
SMCJ10	SMCJ10C	10	11.1	14.1	1.0	18.8	79.8	5.0
SMCJ10A	SMCJ10CA	10	11.1	12.8	1.0	17.0	88.2	5.0
SMCJ11	SMCJ11C	11	12.2	15.4	1.0	20.1	74.6	5.0
SMCJ11A	SMCJ11CA	11	12.2	14.0	1.0	18.2	82.4	5.0
SMCJ12	SMCJ12C	12	13.3	16.9	1.0	22.0	68.2	5.0
SMCJ12A	SMCJ12CA	12	13.3	15.3	1.0	19.9	75.4	5.0
SMCJ13	SMCJ13C	13	14.4	18.2	1.0	23.8	63.0	5.0
SMCJ13A	SMCJ13CA	13	14.4	16.5	1.0	21.5	69.8	5.0
SMCJ14	SMCJ14C	14	15.6	19.8	1.0	25.8	58.1	5.0
SMCJ14A	SMCJ14CA	14	15.6	17.9	1.0	23.2	64.7	5.0
SMCJ15	SMCJ15C	15	16.7	21.1	1.0	26.9	55.8	5.0
SMCJ15A	SMCJ15CA	15	16.7	19.2	1.0	24.4	61.5	5.0
SMCJ16	SMCJ16C	16	17.8	22.6	1.0	28.8	52.1	5.0
SMCJ16A	SMCJ16CA	16	17.8	20.5	1.0	26.0	57.7	5.0
SMCJ17	SMCJ17C	17	18.9	23.9	1.0	30.5	49.2	5.0
SMCJ17A	SMCJ17CA	17	18.9	21.7	1.0	27.6	54.3	5.0
SMCJ18	SMCJ18C	18	20.0	25.3	1.0	32.2	46.6	5.0
SMCJ18A	SMCJ18CA	18	20.0	23.3	1.0	29.2	51.4	5.0
SMCJ20	SMCJ20C	20	22.2	28.1	1.0	35.8	41.9	5.0
SMCJ20A	SMCJ20CA	20	22.2	25.5	1.0	32.4	46.3	5.0
SMCJ22	SMCJ22C	22	24.4	30.9	1.0	39.4	38.1	5.0
SMCJ22A	SMCJ22CA	22	24.4	28.0	1.0	35.5	42.3	5.0
SMCJ24	SMCJ24C	24	26.7	33.8	1.0	43.0	34.9	5.0
SMCJ24A	SMCJ24CA	24	26.7	30.7	1.0	38.9	38.6	5.0



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)
SMCJ26	SMCJ26C	26	28.9	36.6	1.0	46.6	32.2	5.0
SMCJ26A	SMCJ26CA	26	28.9	33.2	1.0	42.1	35.6	5.0
SMCJ28	SMCJ28C	28	31.1	39.4	1.0	50.0	30.0	5.0
SMCJ28A	SMCJ28CA	28	31.1	35.8	1.0	45.4	33.0	5.0
SMCJ30	SMCJ30C	30	33.3	42.2	1.0	53.5	28.0	5.0
SMCJ30A	SMCJ30CA	30	33.3	38.3	1.0	48.4	31.0	5.0
SMCJ33	SMCJ33C	33	36.7	46.5	1.0	59.0	25.4	5.0
SMCJ33A	SMCJ33CA	33	36.7	42.2	1.0	53.3	28.1	5.0
SMCJ36	SMCJ36C	36	40.0	50.7	1.0	64.3	23.3	5.0
SMCJ36A	SMCJ36CA	36	40.0	46.0	1.0	58.1	25.8	5.0
SMCJ40	SMCJ40C	40	44.4	56.3	1.0	71.4	21.0	5.0
SMCJ40A	SMCJ40CA	40	44.4	51.1	1.0	64.5	23.3	5.0
SMCJ43	SMCJ43C	43	47.8	60.5	1.0	76.7	19.6	5.0
SMCJ43A	SMCJ43CA	43	47.8	54.9	1.0	69.4	21.6	5.0
SMCJ45	SMCJ45C	45	50.0	63.3	1.0	80.3	18.7	5.0
SMCJ45A	SMCJ45CA	45	50.0	57.5	1.0	72.7	20.6	5.0
SMCJ48	SMCJ48C	48	53.3	67.5	1.0	85.5	17.5	5.0
SMCJ48A	SMCJ48CA	48	53.3	61.3	1.0	77.4	19.4	5.0
SMCJ51	SMCJ51C	51	56.7	71.8	1.0	91.1	16.5	5.0
SMCJ51A	SMCJ51CA	51	56.7	65.2	1.0	82.4	18.2	5.0
SMCJ54	SMCJ54C	54	60.0	76.0	1.0	96.3	15.6	5.0
SMCJ54A	SMCJ54CA	54	60.0	69.0	1.0	87.1	17.2	5.0
SMCJ58	SMCJ58C	58	64.4	81.6	1.0	103	14.6	5.0
SMCJ58A	SMCJ58CA	58	64.4	74.1	1.0	93.6	16.0	5.0
SMCJ60	SMCJ60C	60	66.7	84.5	1.0	107	14.0	5.0
SMCJ60A	SMCJ60CA	60	66.7	76.7	1.0	96.8	15.5	5.0
SMCJ64	SMCJ64C	64	71.1	90.1	1.0	114	13.2	5.0
SMCJ64A	SMCJ64CA	64	71.1	81.8	1.0	103	14.6	5.0
SMCJ70	SMCJ70C	70	77.8	98.6	1.0	125	12.0	5.0
SMCJ70A	SMCJ70CA	70	77.8	89.5	1.0	113	13.3	5.0
SMCJ75	SMCJ75C	75	83.0	105.7	1.0	134	11.2	5.0
SMCJ75A	SMCJ75CA	75	83.0	95.8	1.0	121	12.4	5.0
SMCJ78	SMCJ78C	78	86.0	109.8	1.0	139	10.8	5.0
SMCJ78A	SMCJ78CA	78	86.0	99.7	1.0	126	11.9	5.0
SMCJ85	SMCJ85C	85	94.0	119.2	1.0	151	9.9	5.0
SMCJ85A	SMCJ85CA	85	94.0	108.2	1.0	137	10.9	5.0
SMCJ90	SMCJ90C	90	100	126.5	1.0	160	9.4	5.0
SMCJ90A	SMCJ90CA	90	100	115.5	1.0	146	10.3	5.0
SMCJ100	SMCJ100C	100	111	141.0	1.0	179	8.4	5.0
SMCJ100A	SMCJ100CA	100	111	128.0	1.0	162	9.3	5.0
SMCJ110	SMCJ110C	110	122	154.5	1.0	196	7.7	5.0
SMCJ110A	SMCJ110CA	110	122	140.5	1.0	177	8.5	5.0



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)
SMCJ120	SMCJ120C	120	133	169.0	1.0	214	7.0	5.0
SMCJ120A	SMCJ120CA	120	133	153.0	1.0	193	7.8	5.0
SMCJ130	SMCJ130C	130	144	182.5	1.0	231	6.5	5.0
SMCJ130A	SMCJ130CA	130	144	165.5	1.0	209	7.2	5.0
SMCJ150	SMCJ150C	150	167	211.5	1.0	268	5.6	5.0
SMCJ150A	SMCJ150CA	150	167	192.5	1.0	243	6.2	5.0
SMCJ160	SMCJ160C	160	178	226.0	1.0	287	5.2	5.0
SMCJ160A	SMCJ160CA	160	178	205.0	1.0	259	5.8	5.0
SMCJ170	SMCJ170C	170	189	239.5	1.0	304	4.9	5.0
SMCJ170A	SMCJ170CA	170	189	217.5	1.0	275	5.5	5.0
SMCJ180	SMCJ180C	180	200	253.8	1.0	321	4.7	5.0
SMCJ180A	SMCJ180CA	180	200	230.4	1.0	290	5.2	5.0
SMCJ190	SMCJ190C	190	211	267.9	1.0	339	4.4	5.0
SMCJ190A	SMCJ190CA	190	211	243.2	1.0	306	4.9	5.0
SMCJ200	SMCJ200C	200	222	282.0	1.0	356	4.2	5.0
SMCJ200A	SMCJ200CA	200	222	256.0	1.0	322	4.7	5.0
SMCJ210	SMCJ210C	210	233	296.1	1.0	375	4.0	5.0
SMCJ210A	SMCJ210CA	210	233	268.8	1.0	339	4.4	5.0
SMCJ220	SMCJ220C	220	244	310.2	1.0	392	3.8	5.0
SMCJ220A	SMCJ220CA	220	244	281.6	1.0	355	4.2	5.0
SMCJ250	SMCJ250C	250	278	342.5	1.0	447	3.4	5.0
SMCJ250A	SMCJ250CA	250	278	309.0	1.0	403	3.7	5.0
SMCJ300	SMCJ300C	300	333	411.0	1.0	535	2.8	5.0
SMCJ300A	SMCJ300CA	300	333	371.0	1.0	484	3.1	5.0
SMCJ350	SMCJ350C	350	389	479.5	1.0	624	2.4	5.0
SMCJ350A	SMCJ350CA	350	389	432.0	1.0	565	2.7	5.0
SMCJ400	SMCJ400C	400	444	548.0	1.0	687	2.2	5.0
SMCJ400A	SMCJ400CA	400	444	494.0	1.0	645	2.3	5.0
SMCJ440	SMCJ440C	440	489	602.8	1.0	786	1.9	5.0
SMCJ440A	SMCJ440CA	440	489	543.0	1.0	710	2.1	5.0



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

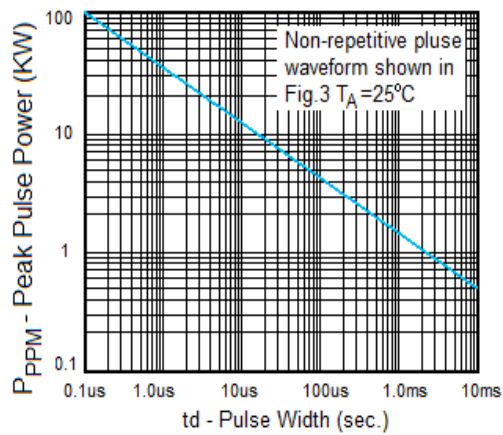


Fig. 1 Peak Pulse Power Rating

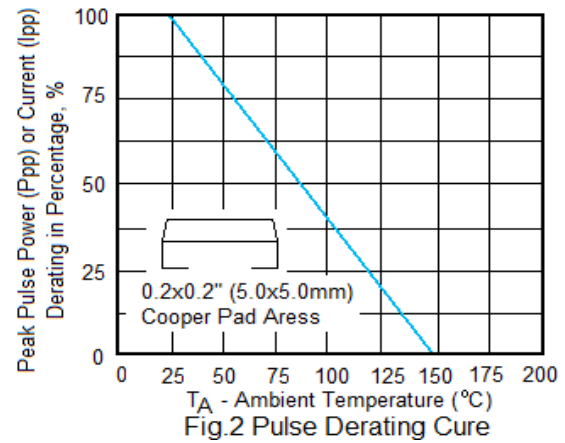


Fig. 2 Pulse Derating Curve

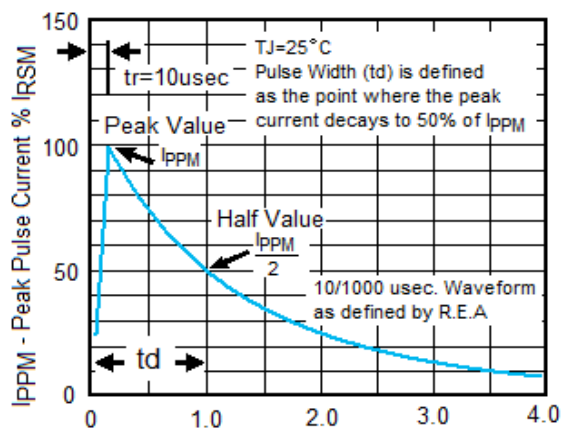


Fig. 3 Pulse Waveform

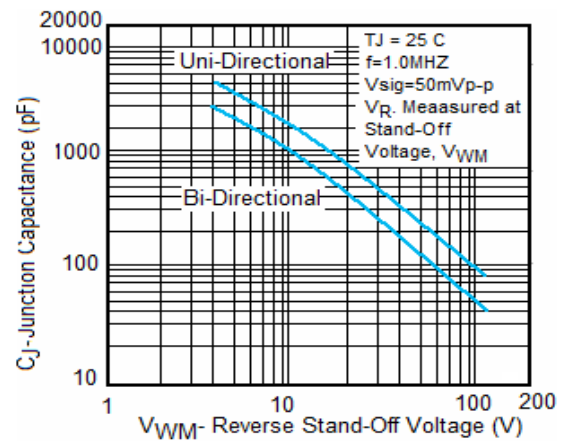


Fig. 4- Typical Junction Capacitance