

SMBJ5.0C - 440CA

Stand-off Voltage : 5.0 to 440V

Peak Pulse Power : 600 W

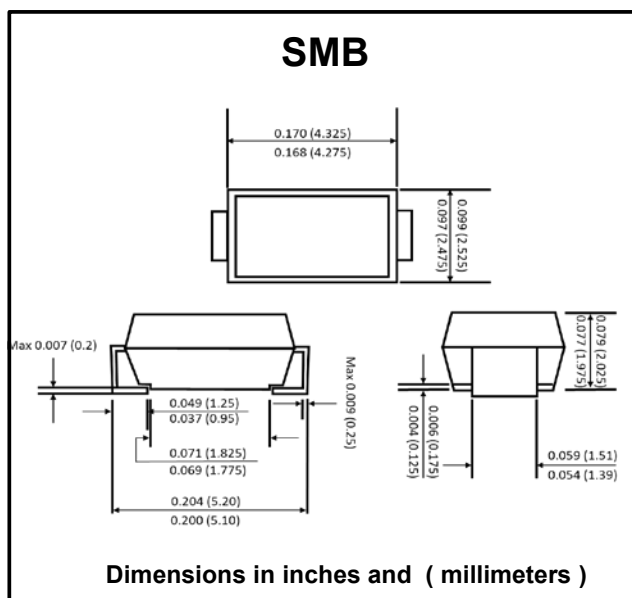
FEATURES :

- * 600W peak pulse power capability with a 10/1000 μ s waveform
- * Excellent clamping capability
- * Very fast response time
- * Pb / RoHS Free

MECHANICAL DATA

- * Case : SMB Molded plastic
- * Epoxy : UL94V-0 rate flame retardant
- * Lead : Lead Formed for Surface Mount
- * Mounting position : Any
- * Polarity : Bi-directional without cathode mark
- * Weight : 0.108 gram

SURFACE MOUNT BI-DIRECTIONAL TRANSIENT VOLTAGE SUPPRESSOR



MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 μ s waveform ⁽¹⁾⁽²⁾ (Fig. 3)	PPM	Minimum 600	W
Peak Pulse Current on 10/1000 μ s waveform ⁽¹⁾ (Fig. 4)	I _{PPM}	See Table	A
Typical Thermal resistance, Junction to ambient	R _{θJA}	100	°C/W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	- 55 to + 150	°C

Notes :

- (1) Non-repetitive Current pulse, per Fig. 3 and derated above Ta = 25 °C per Fig. 1
- (2) Mounted on 0.2 x 0.2" (5.0 x 5.0 mm) copper pads to each terminal.

ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless oth

Type	Marking	Breakdown Voltage @ $I_T^{(1)}$			Reverse Stand-off Voltage	Maximum Reverse Leakage @ V_{WM}	Maximum Peak Pulse Surge Current	Maximum Clamping Voltage @ I_{PPM}
		V_{BR} (V)		I_T	V_{WM}	I_R	I_{PPM}	V_C
		Min.	Max.	(mA)	(V)	(μA)	(A)	(V)
SMBJ5.0C	5.0C	6.40	7.82	10	5.0	1600	62.5	9.6
SMBJ5.0CA	5.0CA	6.40	7.25	10	5.0	1600	65.2	9.2
SMBJ6.0C	6.0C	6.67	8.15	10	6.0	1600	52.6	11.4
SMBJ6.0CA	6.0CA	6.67	7.37	10	6.0	1600	58.3	10.3
SMBJ6.5C	6.5C	7.22	8.82	10	6.5	1000	48.7	12.3
SMBJ6.5CA	6.5CA	7.22	7.98	10	6.5	1000	53.6	11.2
SMBJ7.0C	7.0C	7.78	9.51	10	7.0	400	45.1	13.3
SMBJ7.0CA	7.0CA	7.78	8.6	10	7.0	400	50.0	12.0
SMBJ7.5C	7.5C	8.33	10.2	1.0	7.5	200	42.0	14.3
SMBJ7.5CA	7.5CA	8.33	9.21	1.0	7.5	200	46.5	12.9
SMBJ8.0C	8.0C	8.89	10.9	1.0	8.0	100	40.0	15.0
SMBJ8.0CA	8.0CA	8.89	9.83	1.0	8.0	100	44.1	13.6
SMBJ8.5C	8.5C	9.44	11.5	1.0	8.5	20	37.7	15.9
SMBJ8.5CA	8.5CA	9.44	10.4	1.0	8.5	20	41.7	14.4
SMBJ9.0C	9.0C	10.0	12.2	1.0	9.0	10	35.5	16.9
SMBJ9.0CA	9.0CA	10.0	11.1	1.0	9.0	10	39.0	15.4
SMBJ10C	10C	11.1	13.6	1.0	10	2.0	31.9	18.8
SMBJ10CA	10CA	11.1	12.3	1.0	10	2.0	35.3	17.0
SMBJ11C	11C	12.2	14.9	1.0	11	1.0	29.9	20.1
SMBJ11CA	11CA	12.2	13.5	1.0	11	1.0	33.0	18.2
SMBJ12C	12C	13.3	16.3	1.0	12	1.0	27.3	22.0
SMBJ12CA	12CA	13.3	14.7	1.0	12	1.0	30.2	19.9
SMBJ13C	13C	14.4	17.6	1.0	13	1.0	25.2	23.8
SMBJ13CA	13CA	14.4	15.9	1.0	13	1.0	27.9	21.5
SMBJ14C	14C	15.6	19.1	1.0	14	1.0	23.3	25.8
SMBJ14CA	14CA	15.6	17.2	1.0	14	1.0	25.8	23.2
SMBJ15C	15C	16.7	20.4	1.0	15	1.0	22.3	26.9
SMBJ15CA	15CA	16.7	18.5	1.0	15	1.0	24.0	24.4
SMBJ16C	16C	17.8	21.8	1.0	16	1.0	20.8	28.8
SMBJ16CA	16CA	17.8	19.7	1.0	16	1.0	23.1	26.0
SMBJ17C	17C	18.9	23.1	1.0	17	1.0	19.7	30.5
SMBJ17CA	17CA	18.9	20.9	1.0	17	1.0	21.7	27.6
SMBJ18C	18C	20.0	24.4	1.0	18	1.0	18.6	32.2
SMBJ18CA	18CA	20.0	22.1	1.0	18	1.0	20.5	29.2
SMBJ20C	20C	22.2	27.1	1.0	20	1.0	16.7	35.8
SMBJ20CA	20CA	22.2	24.5	1.0	20	1.0	18.5	32.4
SMBJ22C	22C	24.4	29.8	1.0	22	1.0	15.2	39.4
SMBJ22CA	22CA	24.4	26.9	1.0	22	1.0	16.9	35.5
SMBJ24C	24C	26.7	32.6	1.0	24	1.0	14.0	43.0
SMBJ24CA	24CA	26.7	29.5	1.0	24	1.0	15.4	38.9
SMBJ26C	26C	28.9	35.3	1.0	26	1.0	12.4	46.6
SMBJ26CA	26CA	28.9	31.9	1.0	26	1.0	14.2	42.1
SMBJ28C	28C	31.1	38	1.0	28	1.0	12.0	50.0
SMBJ28CA	28CA	31.1	34.4	1.0	28	1.0	13.2	45.4
SMBJ30C	30C	33.3	40.7	1.0	30	1.0	11.2	53.5
SMBJ30CA	30CA	33.3	36.8	1.0	30	1.0	12.4	48.4
SMBJ33C	33C	36.7	44.9	1.0	33	1.0	10.2	59.0
SMBJ33CA	33CA	36.7	40.6	1.0	33	1.0	11.3	53.3
SMBJ36C	36C	40.0	48.9	1.0	36	1.0	9.3	64.3
SMBJ36CA	36CA	40.0	44.2	1.0	36	1.0	10.3	58.1

ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless oth

Type	Marking	Breakdown Voltage @ $I_T^{(1)}$			Reverse Stand-off Voltage	Maximum Reverse Leakage @ V_{WM}	Maximum Peak Pulse Surge Current	Maximum Clamping Voltage @ I_{PPM}
		V_{BR} (V)		I_T	V_{WM}	I_R	I_{PPM}	V_C
		Min.	Max.	(mA)	(V)	(μA)	(A)	(V)
SMBJ40C	40C	44.4	54.3	1.0	40	1.0	8.4	71.4
SMBJ40CA	40CA	44.4	49.1	1.0	40	1.0	9.3	64.5
SMBJ43C	43C	47.8	58.4	1.0	43	1.0	7.8	76.7
SMBJ43CA	43CA	47.8	52.8	1.0	43	1.0	8.6	69.4
SMBJ45C	45C	50.0	61.1	1.0	45	1.0	7.5	80.3
SMBJ45CA	45CA	50.0	55.3	1.0	45	1.0	8.3	72.7
SMBJ48C	48C	53.3	65.1	1.0	48	1.0	7.0	85.5
SMBJ48CA	48CA	53.3	58.9	1.0	48	1.0	7.7	77.4
SMBJ51C	51C	56.7	69.3	1.0	51	1.0	6.6	91.1
SMBJ51CA	51CA	56.7	62.7	1.0	51	1.0	7.3	82.4
SMBJ54C	54C	60.0	73.3	1.0	54	1.0	6.2	96.3
SMBJ54CA	54CA	60.0	66.3	1.0	54	1.0	6.9	87.1
SMBJ58C	58C	64.4	78.7	1.0	58	1.0	5.8	103
SMBJ58CA	58CA	64.4	71.2	1.0	58	1.0	6.4	93.6
SMBJ60C	60C	66.7	81.5	1.0	60	1.0	5.6	107
SMBJ60CA	60CA	66.7	73.7	1.0	60	1.0	6.2	96.8
SMBJ64C	64C	71.1	86.9	1.0	64	1.0	5.3	114
SMBJ64CA	64CA	71.1	78.6	1.0	64	1.0	5.8	103
SMBJ70C	70C	77.8	95.1	1.0	70	1.0	4.8	125
SMBJ70CA	70CA	77.8	86	1.0	70	1.0	5.3	113
SMBJ75C	75C	83.3	102	1.0	75	1.0	4.5	134
SMBJ75CA	75CA	83.3	92.1	1.0	75	1.0	4.9	121
SMBJ78C	78C	86.7	106	1.0	78	1.0	4.3	139
SMBJ78CA	78CA	86.7	95.8	1.0	78	1.0	4.7	126
SMBJ85C	85C	94.4	115	1.0	85	1.0	3.9	151
SMBJ85CA	85CA	94.4	104	1.0	85	1.0	4.4	137
SMBJ90C	90C	100	122	1.0	90	1.0	3.8	160
SMBJ90CA	90CA	100	111	1.0	90	1.0	4.1	146
SMBJ100C	100C	111	136	1.0	100	1.0	3.4	179
SMBJ100CA	100CA	111	123	1.0	100	1.0	3.7	162
SMBJ110C	110C	122	149	1.0	110	1.0	3.0	196
SMBJ110CA	110CA	122	135	1.0	110	1.0	3.4	177
SMBJ120C	120C	133	163	1.0	120	1.0	2.8	214
SMBJ120CA	120CA	133	147	1.0	120	1.0	3.1	193
SMBJ130C	130C	144	176	1.0	130	1.0	2.6	231
SMBJ130CA	130CA	144	159	1.0	130	1.0	2.9	209
SMBJ150C	150C	167	204	1.0	150	1.0	2.2	268
SMBJ150CA	150CA	167	185	1.0	150	1.0	2.5	243
SMBJ160C	160C	178	218	1.0	160	1.0	2.1	287
SMBJ160CA	160CA	178	197	1.0	160	1.0	2.3	259
SMBJ170C	170C	189	231	1.0	170	1.0	2.0	304
SMBJ170CA	170CA	189	209	1.0	170	1.0	2.2	275
SMBJ188C	188C	209	255	1.0	188	1.0	1.7	344
SMBJ188CA	188CA	209	231	1.0	188	1.0	2.0	328
SMBJ200C	200C	222	271	1.0	200	1.0	1.7	351
SMBJ200CA	200CA	222	246	1.0	200	1.0	1.9	323
SMBJ220C	220C	245	299	1.0	220	1.0	1.6	386
SMBJ220CA	220CA	245	270	1.0	220	1.0	1.7	355



ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless oth

Type	Marking	Breakdown Voltage @ $I_T^{(1)}$			Reverse Stand-off Voltage	Maximum Reverse Leakage @ V_{WM}	Maximum Peak Pulse Surge Current	Maximum Clamping Voltage @ I_{PPM}
		V_{BR} (V)		I_T	V_{WM}	I_R	I_{PPM}	V_C
		Min.	Max.	(mA)	(V)	(μA)	(A)	(V)
SMBJ250C	250C	278	339	1.0	250	1.0	1.4	439
SMBJ250CA	250CA	278	307	1.0	250	1.0	1.5	403
SMBJ300C	300C	334	407	1.0	300	1.0	1.1	526
SMBJ300CA	300CA	334	368	1.0	300	1.0	1.2	484
SMBJ350C	350C	389	475	1.0	350	1.0	1.0	614
SMBJ350CA	350CA	389	430	1.0	350	1.0	1.1	565
SMBJ400C	400C	445	543	1.0	400	1.0	0.9	702
SMBJ400CA	400CA	445	491	1.0	400	1.0	0.9	645
SMBJ440C	440C	489	597	1.0	440	1.0	0.8	772
SMBJ440CA	440CA	489	540	1.0	440	1.0	0.8	710

Note: (1) Pulse test : $t_p \leq 50ms$.

PACKING INFORMATION

Case Type	Pack	Packaging	Quantity per Box (Pcs.)	Net weight per unit (Kgs.)	Gross weight per unit (Kgs.)	Quantity per Carton (Pcs.)	Net weight per carton (Kgs.)	Gross weight per carton (Kgs.)
SMB(DO-214AA)	R	REEL	3,000	0.35	0.60	15,000	1.76	3.35

RATING AND CHARACTERISTIC CURVES (SMBJ5.0C - SMBJ440CA)

PEAK PULSE POWER OR CURRENT
DERATING IN PERCENTAGE

FIG.1 - PULSE DERATING CURVE

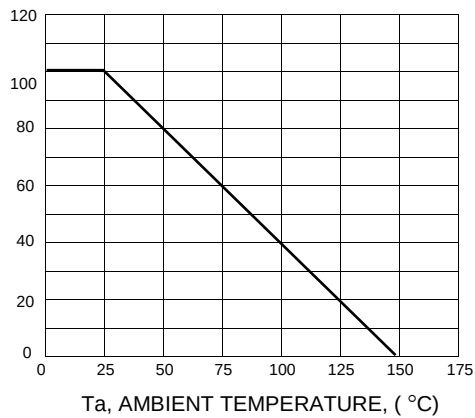


FIG.2 - TYPICAL JUNCTION CAPACITANCE

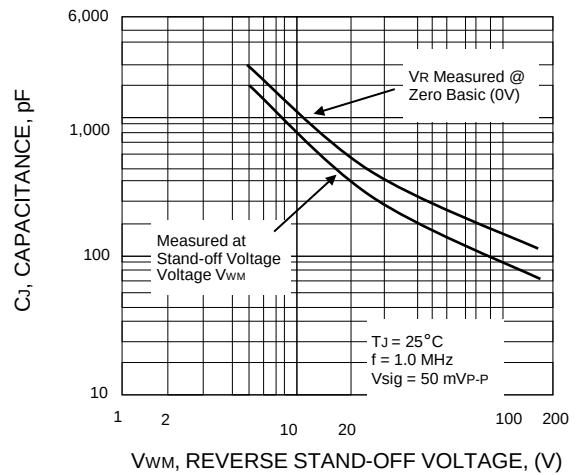


FIG.3 - PULSE WAVEFORM

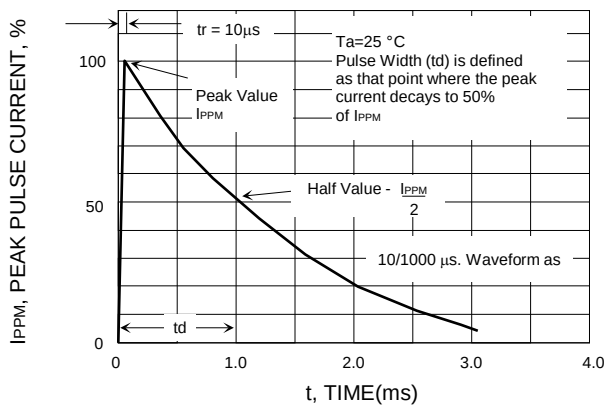


FIG.4 - PEAK PULSE POWER RATING CURVE

