

SMC Series

1500Watts Surface Mount Transient Voltage Suppressor

STAND-OFF VOLTAGE - **6.8** to **200** Volts

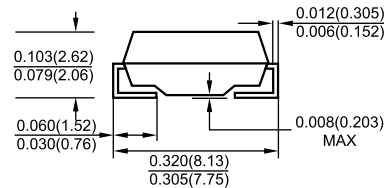
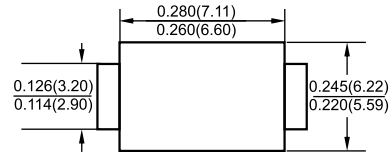
POWER DISSIPATION - **1500** WATTS



SMC/DO-214AB

Features

- ✧ Rating to 200V VBR
- ✧ For surface mounted applications
- ✧ Reliable low cost construction utilizing molded plastic technique
- ✧ Plastic material has UL flammability classification 94V-0
- ✧ Typical IR less than 1uA above 10V
- ✧ Fast response time: typically less than 1.0ps for Uni-direction, less than 5.0ns for Bi-direction, from 0 Volts to BV min



Dimensions in inches and (millimeters)

Mechanical Data

- ✧ Case : Molded plastic
- ✧ Polarity : by cathode band denotes uni-directional device
none cathode band denotes bi-directional device
- ✧ Weight : 0.007 ounces, 0.21 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOLS	VALUE	UNIT
PEAK POWER DISSIPATION AT T _A = 25 °C, T _P = 1ms (Note 1,2)	P _{PK}	Minimum 1500	WATTS
Peak Forward Surge Current 8.3ms single half sine-wave super imposed on rated load (Note 3) (JEDEC METHOD)	I _{FSM}	200	AMPS.
Steady State Power Dissipation at T _L = 75°C	P _{M(AV)}	5.0	WATTS
Maximum Instantaneous forward voltage at 100A for unidirectional devices only (Note 3)	V _F	SEE NOTE 4	Volts
Operating Temperature Range	T _J	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +175	°C

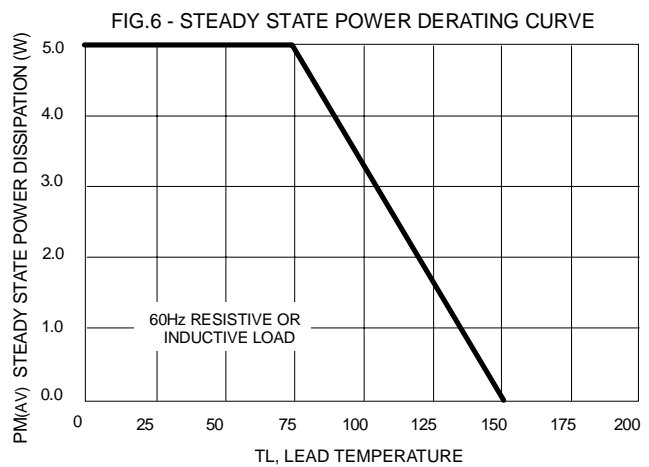
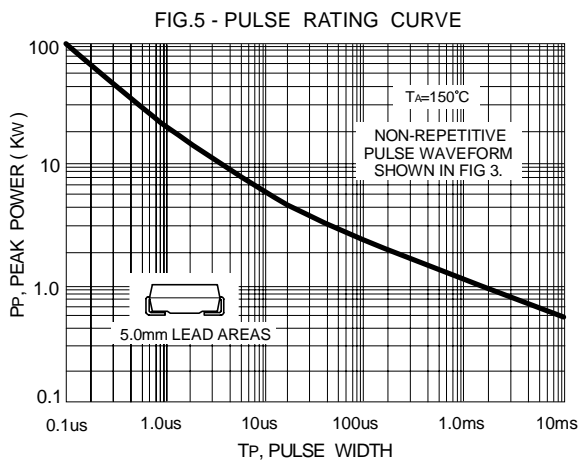
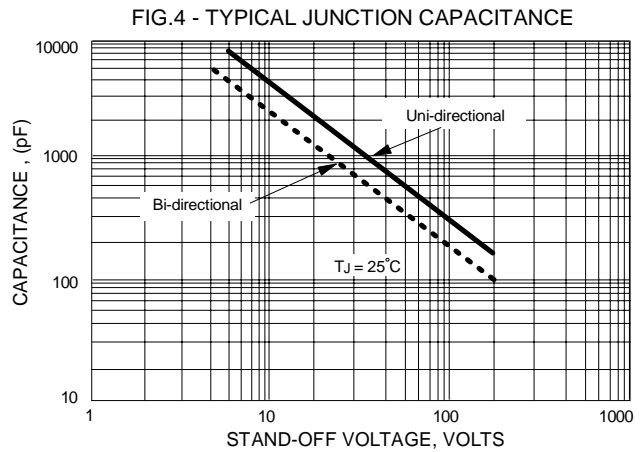
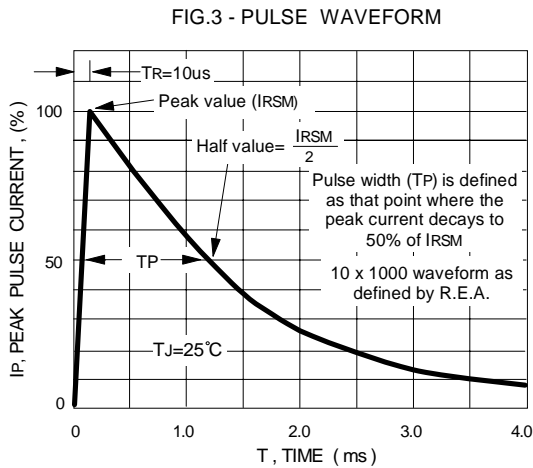
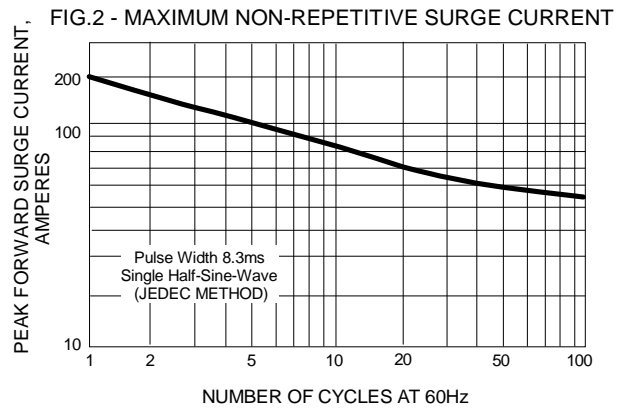
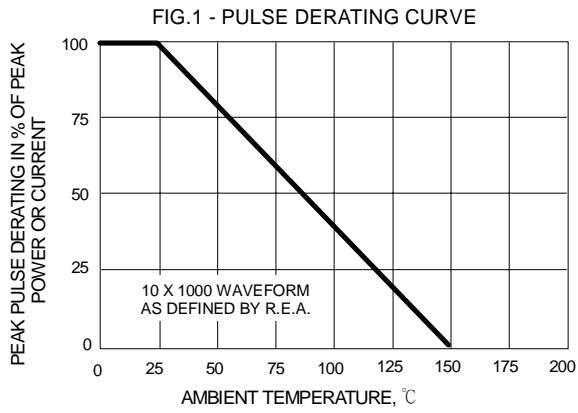
NOTES : 1. Non-repetitive current pulse, per fig. 3 and derated above T_A = 25°C per fig.1.

2. Thermal Resistance junction to Lead

3. 8.3ms single half-sine wave duty cycle= 4 pulses maximum per minute (unidirectional units only).

4. V_F = 3.5V on SMC6.8 thru SMC90A devices and V_F = 5.0V on SMC100 thru SMC200A devices.

RATING AND CHARACTERISTIC CURVES





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Device Uni-directional	Device Bi-directional	Breakdown voltage VBR Volts			Working Peak Reverse Voltage VRWM(Volts)	Maximum Reverse Leakage at VRWM IR (uA)	Maximum Reverse Surge Current IRSM(Amps)	Maximum Reverse Voltage at IRSM (Clamping Voltage) VRSM(Volts)
		Min.	Max.	@IT(mA)				
SMC6.8	SMC6.8C	6.12	7.48	10.0	5.50	1000	139	10.8
SMC6.8A	SMC6.8CA	6.45	7.14	10.0	5.80	1000	143	10.5
SMC7.5	SMC7.5C	6.75	8.25	10.0	6.05	500	128	11.7
SMC7.5A	SMC7.5CA	7.13	7.88	10.0	6.40	500	133	11.3
SMC8.2	SMC8.2C	7.38	9.02	10.0	6.63	200	120	12.5
SMC8.2A	SMC8.2CA	7.79	8.61	10.0	7.02	200	124	12.1
SMC9.1	SMC9.1C	8.19	10.0	10.0	7.37	50.0	109	13.8
SMC9.1A	SMC9.1CA	8.65	9.55	10.0	7.78	50.0	112	13.4
SMC10	SMC10C	9.00	11.0	1.0	8.10	20.0	100	15.0
SMC10A	SMC10CA	9.50	10.5	1.0	8.55	20.0	103	14.5
SMC11	SMC11C	9.90	12.1	1.0	8.92	5.0	93	16.2
SMC11A	SMC11CA	10.5	11.6	1.0	9.40	5.0	96	15.6
SMC12	SMC12C	10.8	13.2	1.0	9.72	5.0	87	17.3
SMC12A	SMC12CA	11.4	12.6	1.0	10.2	5.0	90	16.7
SMC13	SMC13C	11.7	14.3	1.0	10.5	5.0	79	19.0
SMC13A	SMC13CA	12.4	13.7	1.0	11.1	5.0	82	18.2
SMC15	SMC15C	13.5	16.3	1.0	12.1	5.0	68	22.0
SMC15A	SMC15CA	14.3	15.8	1.0	12.8	5.0	71	21.2
SMC16	SMC16C	14.4	17.6	1.0	12.9	5.0	64	23.5
SMC16A	SMC16CA	15.2	16.8	1.0	13.6	5.0	67	22.5
SMC18	SMC18C	16.2	19.8	1.0	14.5	5.0	56.5	26.5
SMC18A	SMC18CA	17.1	18.9	1.0	15.3	5.0	59.5	25.5
SMC20	SMC20C	18.0	22.0	1.0	16.2	5.0	51.5	29.1
SMC20A	SMC20CA	19.0	21.0	1.0	17.1	5.0	54	27.7
SMC22	SMC22C	19.8	24.2	1.0	17.8	5.0	47	31.9
SMC22A	SMC22CA	20.9	23.1	1.0	18.8	5.0	49	30.6
SMC24	SMC24C	21.6	26.4	1.0	19.4	5.0	43	34.7
SMC24A	SMC24CA	22.8	25.2	1.0	20.5	5.0	45	33.2
SMC27	SMC27C	24.3	29.7	1.0	21.8	5.0	38.5	39.1
SMC27A	SMC27CA	25.7	28.4	1.0	23.1	5.0	40	37.5
SMC30	SMC30C	27.0	33.0	1.0	24.3	5.0	34.5	43.5
SMC30A	SMC30CA	28.5	31.5	1.0	25.6	5.0	36	41.4
SMC33	SMC33C	29.7	36.3	1.0	26.8	5.0	31.5	47.7
SMC33A	SMC33CA	31.4	34.7	1.0	28.2	5.0	33	45.7
SMC36	SMC36C	32.4	39.6	1.0	29.1	5.0	29	52.0
SMC36A	SMC36CA	34.2	37.8	1.0	30.8	5.0	30	49.9
SMC39	SMC39C	35.1	42.9	1.0	31.6	5.0	26.5	56.4
SMC39A	SMC39CA	37.1	41.0	1.0	33.3	5.0	28	53.9
SMC43	SMC43C	38.7	47.3	1.0	34.8	5.0	24	61.9
SMC43A	SMC43CA	40.9	45.2	1.0	36.8	5.0	25.3	59.3



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		Min.	Max.	@IT(mA)				
SMC47	SMC47C	42.3	51.7	1.0	38.1	5.0	22.12	67.8
SMC47A	SMC47CA	44.7	49.4	1.0	40.2	5.0	23.15	64.8
SMC51	SMC45C	45.9	56.1	1.0	41.3	5.0	20.41	73.5
SMC51A	SMC45CA	48.5	53.6	1.0	43.6	5.0	21.40	70.1
SMC56	SMC56C	50.4	61.6	1.0	45.4	5.0	18.63	80.5
SMC56A	SMC56CA	53.2	58.8	1.0	47.8	5.0	19.48	77.0
SMC62	SMC62C	55.8	68.2	1.0	50.2	5.0	16.85	89.0
SMC62A	SMC62CA	58.9	65.1	1.0	53.0	5.0	17.65	85.0
SMC68	SMC68C	61.2	74.8	1.0	55.1	5.0	15.31	98.0
SMC68A	SMC68CA	64.6	71.4	1.0	58.1	5.0	16.30	92.0
SMC75	SMC75C	67.5	82.5	1.0	60.7	5.0	13.89	108
SMC75A	SMC75CA	71.3	78.8	1.0	64.1	5.0	14.56	103
SMC82	SMC82C	73.8	90.2	1.0	66.4	5.0	12.71	118
SMC82A	SMC82CA	77.8	86.0	1.0	70.1	5.0	13.27	113
SMC91	SMC91C	81.9	100	1.0	73.7	5.0	11.45	131
SMC91A	SMC91CA	86.5	95.5	1.0	77.8	5.0	12.00	125
SMC100	SMC100C	90.0	110	1.0	81.0	5.0	10.42	144
SMC100A	SMC100CA	95.0	105	1.0	85.5	5.0	10.95	137
SMC110	SMC110C	99.0	121	1.0	89.2	5.0	9.49	158
SMC110A	SMC110CA	105	116	1.0	94.0	5.0	9.87	152
SMC120	SMC120C	108	132	1.0	97.2	5.0	8.67	173
SMC120A	SMC120CA	114	126	1.0	102	5.0	9.09	165
SMC130	SMC130C	117	143	1.0	105	5.0	8.02	187
SMC130A	SMC130CA	124	137	1.0	111	5.0	8.38	179
SMC150	SMC150C	135	165	1.0	121	5.0	6.98	215
SMC150A	SMC150CA	143	158	1.0	128	5.0	7.25	207
SMC160	SMC160C	144	176	1.0	130	5.0	6.52	230
SMC160A	SMC160CA	152	168	1.0	136	5.0	6.85	219
SMC170	SMC170C	153	187	1.0	138	5.0	6.15	244
SMC170A	SMC170CA	162	179	1.0	145	5.0	6.41	234
SMC180	SMC180C	162	198	1.0	146	5.0	5.81	258
SMC180A	SMC180CA	171	189	1.0	154	5.0	6.10	246
SMC200	SMC200C	180	220	1.0	162	5.0	5.23	287
SMC200A	SMC200CA	190	210	1.0	171	5.0	5.47	274

NOTE :

- 1) Suffix 'A ' denotes 5% tolerance device,no suffix denotes 10 % tolerance device.
- 2) Add suffix 'C 'or ' CA ' after part number to specify Bi-directional devices.
- 3) For Bi-Directional devices having VR of 10 volts and under, the IR limit is double .
- 4) For Uni-directional devices VF max=3.5v at if=35 A ,0.5 sine wave of 8.3 msec .pulse width.