

<b>SURFACE MOUNT UNIDIRECTIONAL AND BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSORS</b>	<b>REVERSE VOLTAGE</b> - 6.8 to 200 VOLTS <b>FORWARD CURRENT</b> - 1500 Amperes
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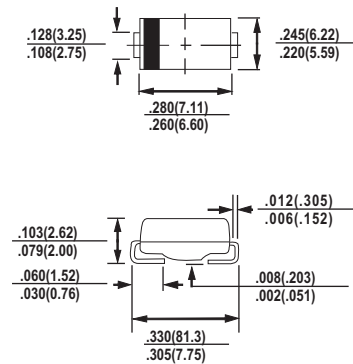
### FEATURES

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

### 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 grams

### SMC



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 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	SYMBOL	VALUE	UNIT
Peak Power Dissipation at T <sub>A</sub> =25 °C TP=1ms(Note 1,2)	P <sub>PK</sub>	Minimum 1500	WATTS
Peak Forward Surge Current 8.3ms single half sine-wave super imposed on rated load (JEDEC Method)	I <sub>FSM</sub>	200	AMPS
Steady State Power Dissipation at TL=75 °C	P <sub>M(AV)</sub>	5.0	WATTS
Maximum Instantaneous forward voltage at 25A for unidirectional devices only (Note 3)	V <sub>F</sub>	See Note 4	VOLTS
Operating Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

- NOTES: 1. Non-repetitive current pulse, per Fig. 3 and derated above T<sub>A</sub>=25 °C per Fig. 1.  
 2. Thermal Resistance Junction to Lead.  
 3. 8.3ms single half sine-wave duty cycle=4 pulses per minutes maximum (uni-directional units only).  
 4. V<sub>F</sub>=3.5V on SMC6.8 thru SMC90A devices and V<sub>F</sub>=5.0V on SMC100 thru SMC200A devices.

# SMC SERIES



FIG. 1 - PULSE DERATING CURVE

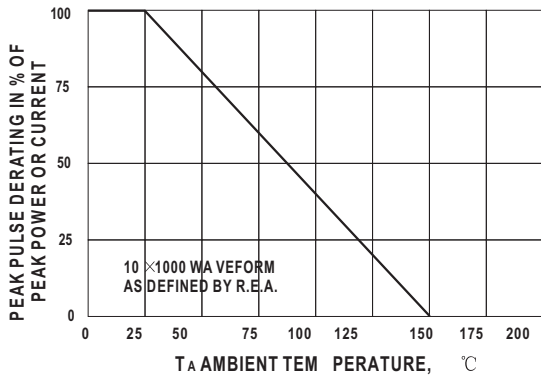


FIG. 2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

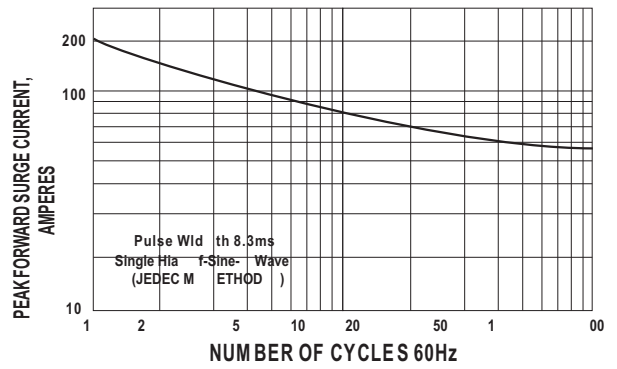


FIG. 3 - PULSE WAVEFORM

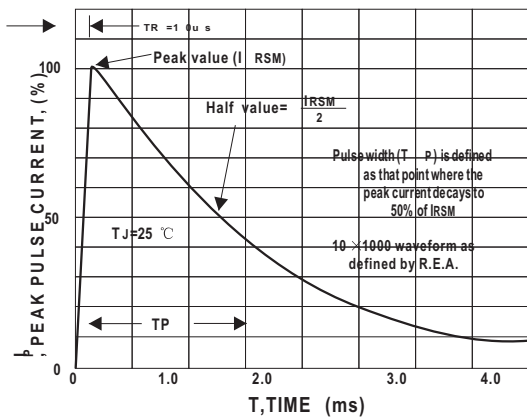


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

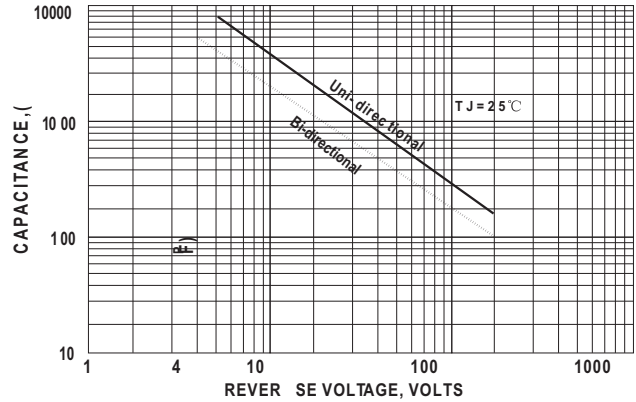


FIG. 5 - PULSE RATING CURVE

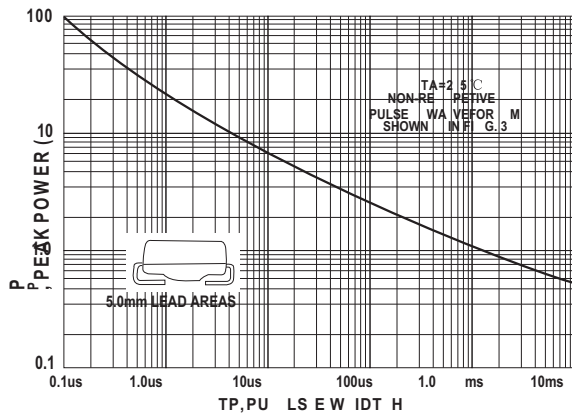
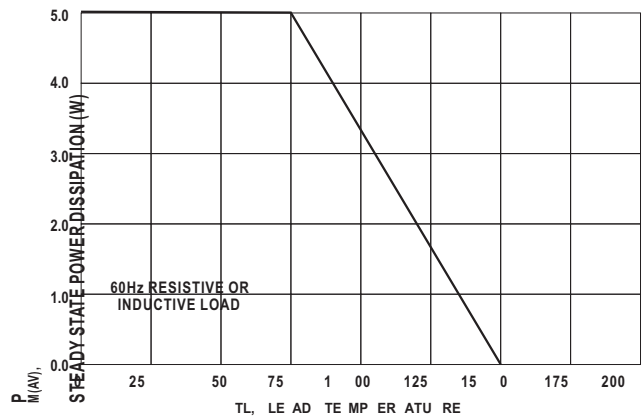


FIG. 6 - STEADY STATE POWER DERATING CURVE



# SMC SERIES



Device Uni-Directional	Device Bi-Directional	Device Marking Code		Breakdown Voltage VBR Volts			Working Peak Reverse Voltage V <sub>RWM</sub> (VOITS)	Maximum Reverse leakage at V <sub>RWM</sub> IR( $\mu$ A)	Maximum Reverse Surge Current I <sub>RSM</sub> (Amps)	Maximum Reverse Voltage at I <sub>RSM</sub> (Clamping Voltage) V <sub>RSM</sub> (Volts)
		(UNI)	(BI)	Min.	Max.	@IT(maA )				
SMC68	SMC68C	DDK	DDM	6.12	7.48	100	5.50	1000	139	10.8
SMC68A	SMC68CA	DEK	DEM	6.45	7.13	100	5.80	1000	143	10.5
SMC75	SMC75C	DFK	DFM	6.75	8.25	100	6.05	500	128	11.7
SMC75A	SMC75CA	DGK	DGM	7.13	7.88	100	6.40	500	133	11.3
SMC82	SMC82C	DHK	DHM	7.38	9.02	100	6.63	200	120	12.5
SMC82A	SMC82CA	DKK	DKM	7.79	8.61	100	7.02	200	124	12.1
SMC91	SMC91C	DLK	DLM	8.19	10.0	100	7.37	50.0	109	13.8
SMC91A	SMC91CA	DMK	DMM	8.65	9.55	100	7.78	50.0	112	13.4
SMC10	SMC10C	DNK	DNM	9.00	11.0	1.0	8.10	20.0	100	15.0
SMC10A	SMC10CA	DPK	DPM	9.50	10.5	1.0	8.55	20.0	103	14.5
SMC11	SMC11C	DQK	DQM	9.90	12.1	1.0	8.92	5.0	93	16.2
SMC11A	SMC11CA	DRK	DRM	10.5	11.6	1.0	9.40	5.0	96	15.6
SMC12	SMC12C	DSK	DSM	10.8	13.2	1.0	9.72	5.0	87	17.3
SMC12A	SMC12CA	DTK	DTM	11.4	12.6	1.0	10.2	5.0	90	16.7
SMC13	SMC13C	DUK	DUM	11.7	14.3	1.0	10.5	5.0	79	19.0
SMC13A	SMC13CA	DKK	DKM	12.4	13.7	1.0	11.1	5.0	82	18.2
SMC15	SMC15C	DWK	DWM	13.5	16.3	1.0	12.1	5.0	68	22.0
SMC15A	SMC15CA	DXK	DXM	14.3	15.8	1.0	12.8	5.0	71	21.2
SMC16	SMC16C	DYK	DYM	14.4	17.6	1.0	12.9	5.0	64	23.5
SMC16A	SMC16CA	DZK	DZM	15.2	16.8	1.0	13.6	5.0	67	22.5
SMC18	SMC18C	EDK	EDM	16.2	19.8	1.0	14.5	5.0	56.5	26.5
SMC18A	SMC18CA	EEK	EBM	17.1	18.9	1.0	15.3	5.0	59.5	25.5
SMC20	SMC20C	EFK	EFM	18.0	22.0	1.0	16.2	5.0	51.5	29.1
SMC20A	SMC20CA	ECK	ECM	19.0	21.0	1.0	17.1	5.0	54	27.7
SMC22	SMC22C	EHK	EHM	19.8	24.2	1.0	17.8	5.0	47	31.9
SMC22A	SMC22CA	EKK	EKM	20.9	23.1	1.0	18.8	5.0	49	30.6
SMC24	SMC24C	ELK	ELM	21.6	26.4	1.0	19.4	5.0	43	34.7
SMC24A	SMC24CA	ENK	ENM	22.8	25.2	1.0	20.5	5.0	45	33.2
SMC27	SMC27C	ENK	ERM	24.3	29.7	1.0	21.8	5.0	38.5	39.1
SMC27A	SMC27CA	EPK	EPM	25.7	28.4	1.0	23.1	5.0	40	37.5
SMC30	SMC30C	ECK	EQM	27.0	33.0	1.0	24.3	5.0	34.5	43.5
SMC30A	SMC30CA	ERK	ERM	28.5	31.5	1.0	25.6	5.0	36	41.4
SMC33	SMC33C	ESK	ESM	29.7	35.3	1.0	26.8	5.0	31.5	47.7
SMC33A	SMC33CA	ETK	ETM	31.4	34.7	1.0	28.2	5.0	33	45.7
SMC36	SMC36C	EUK	EUM	32.4	39.6	1.0	29.1	5.0	29	52.0
SMC36A	SMC36CA	EVK	EVM	34.2	37.8	1.0	30.3	5.0	30	49.9
SMC39	SMC39C	ENK	EVM	35.1	42.9	1.0	31.6	5.0	26.5	56.4
SMC39A	SMC39CA	EXK	EXM	37.1	41.0	1.0	33.3	5.0	28	53.9
SMC43	SMC43C	EYK	EYM	38.7	47.3	1.0	34.8	5.0	24	61.9
SMC43A	SMC43CA	EZK	EZM	40.9	45.2	1.0	36.8	5.0	25.3	59.3

# SMC SERIES



Device Uni-Directional	Device Bi-Directional	Device Marking Code		Breakdown Voltage VBR Volts			Working Peak Reverse Voltage V <sub>RRM</sub> (VOLTS)	Maximum Reverse leakage at V <sub>RRM</sub> IR( $\mu$ A)	Maximum Reverse Surge Current I <sub>RSM</sub> (Amps)	Maximum Reverse Voltage at I <sub>RSM</sub> (Clamping Voltage) V <sub>RSM</sub> (Volts)
		(UNI)	(BI)	Min.	Max.	@IT(maA )				
SVC47	SVC47C	FDK	FDM	423	517	1.0	38.1	5.0	2212	67.8
SVC47A	SVC47CA	FEK	FEM	447	394	1.0	40.2	5.0	2315	64.8
SVC51	SVC51C	FFK	FFM	459	56.1	1.0	41.3	5.0	2041	73.5
SVC51A	SVC51CA	FGK	FGM	48.5	43.6	1.0	43.6	5.0	2140	70.1
SVC56	SVC56C	FHK	FHM	50.4	61.6	1.0	45.4	5.0	1863	80.5
SVC56A	SVC56CA	FKK	FKM	53.2	58.8	1.0	47.8	5.0	1948	77.0
SVC62	SVC62C	FLK	FLM	55.8	68.2	1.0	50.2	5.0	1685	89.0
SVC62A	SVC62CA	FVK	FVM	58.9	65.1	1.0	53.0	5.0	1765	85.0
SVC68	SVC68C	FNK	FNM	61.2	74.8	1.0	55.1	5.0	1531	98.1
SVC68A	SVC68CA	FPK	FPM	64.6	71.4	1.0	58.1	5.0	1630	92.0
SVC75	SVC75C	FGK	FGM	67.5	82.5	1.0	60.7	5.0	1389	108
SVC75A	SVC75CA	FRK	FRM	71.3	78.8	1.0	64.1	5.0	1456	103
SVC82	SVC82C	FSK	FSM	73.8	90.2	1.0	66.4	5.0	1271	118
SVC82A	SVC82CA	FTK	FTM	77.8	86.0	1.0	70.1	5.0	1327	113
SVC91	SVC91C	FLK	FLM	81.9	100	1.0	73.7	5.0	1145	131
SVC91A	SVC91CA	FVK	FVM	86.5	95.5	1.0	77.8	5.0	1200	125
SVC100	SVC100C	FVK	FVM	90.0	110	1.0	81.0	5.0	1042	144
SVC100A	SVC100CA	FKK	FKM	95.5	105	1.0	85.5	5.0	1095	137
SVC110	SVC110C	FYK	FYM	99.0	121	1.0	89.2	5.0	949	158
SVC110A	SVC110CA	FZK	FZM	105	116	1.0	94.0	5.0	987	152
SVC120	SVC120C	GDK	GDM	108	132	1.0	97.2	5.0	867	173
SVC120A	SVC120CA	GEK	GEM	114	126	1.0	102	5.0	909	165
SVC130	SVC130C	GFK	GFM	117	143	1.0	105	5.0	802	187
SVC130A	SVC130CA	GGK	GGM	124	137	1.0	111	5.0	838	179
SVC150	SVC150C	GHK	GHM	135	165	1.0	121	5.0	698	215
SVC150A	SVC150CA	GAK	GAM	143	158	1.0	128	5.0	725	207
SVC160	SVC160C	GLK	GLM	144	176	1.0	130	5.0	652	230
SVC160A	SVC160CA	GVK	GVM	152	168	1.0	136	5.0	685	219
SVC170	SVC170C	GVK	GVM	153	187	1.0	138	5.0	615	244
SVC170A	SVC170CA	GPK	GPM	162	179	1.0	145	5.0	641	234
SVC180	SVC180C	GQK	GQM	162	198	1.0	146	5.0	581	258
SVC180A	SVC180CA	GRK	GRM	171	189	1.0	154	5.0	610	246
SVC200	SVC200C	GSK	GSM	180	220	1.0	162	5.0	523	287
SVC200A	SVC200CA	GTK	GTM	190	210	1.0	171	5.0	547	274

- NOTES: 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 bidirectional devices having VR of 10 volts and under, the IR limit is doubled.