

ELECTRICAL CHARACTERISTICS at (TA=25°C unless otherwise noted) TABLE 1

Device Type Gull Wing Lead	Device Type Modified "J" Bend Lead	Device Marking Code		Breakdown Voltage V _{BR} (Volts) (NOTE 1) (MIN / MAX)	Test Current at I _r (mA)	Stand-off Voltage V _{WM} (Volts)	Maximum Reverse Leakage at V _{WM} (NOTE 3) I ₀ (μA)	Maximum Peak Pulse Surge Current I _{PPM} (NOTE 2) (Amps)	Maximum Clamping Voltage at I _{PPM} V _C (Volts)
SMCG5.0	SMCJ5.0	GDD	GDD	6.40 / 7.3	10.0	5.0	1000	164.0	9.6
SMCG5.0A	SMCJ5.0	GDE	GDE	6.40 / 7.0	10.0	5.0	1000	171.0	9.2
SMCG6.0	SMCJ6.0	GDF	GDF	6.67 / 8.15	10.0	5.0	1000	138.0	11.4
SMCG6.0A	SMCJ6.0A	GDG	GDG	6.67 / 7.37	10.0	6.0	1000	152.0	10.3
SMCG6.5	SMCJ6.5	GDH	BDH	7.22 / 8.82	10.0	6.5	500	128.0	12.3
SMCG6.0A	SMCJ6.5A	GDK	BDK	7.22 / 7.98	10.0	6.5	500	140.0	11.2
SMCG7.0	SMCJ7.0	GDL	GDL	7.78 / 8.51	10.0	7.0	200	118.0	13.3
SMCG7.0A	SMCJ7.0A	GDM	GDM	7.78 / 8.60	10.0	7.0	200	131.0	12.0
SMCG7.5	SMCJ7.5	BDN	BDN	8.33 / 10.3	1.0	7.5	100	110.0	14.3
SMCG7.5A	SMCJ7.5A	GDP	BDP	8.33 / 9.21	1.0	7.5	100	122.0	12.9
SMCG8.0	SMCJ8.0	GDQ	BDG	8.89 / 10.9	1.0	8.0	50	105.0	15.0
SMCG8.0A	SMCJ8.0A	GDR	BDR	8.89 / 9.83	1.0	8.0	50	115.0	13.6
SMCG8.5	SMCJ8.5	GDS	DBS	9.44 / 11.5	1.0	8.5	25	99.0	15.9
SMCG8.5A	SMCJ8.5A	BDT	BDT	9.44 / 10.4	1.0	8.5	20	109.0	14.4
SMCG9.0	SMCJ9.0	BDU	BDU	10.0 / 12.2	1.0	9.0	10	93.0	16.9
SMCG9.0A	SMCJ9.0A	BDV	BDV	10.0 / 11.1	1.0	9.0	10	102.0	15.4
SMCG10	SMCJ10	BDW	BDW	11.1 / 13.6	1.0	10.0	5.0	83.0	18.8
SMCG10A	SMCJ10A	BDX	BDX	11.1 / 12.3	1.0	10.0	5.0	92.0	17.0
SMCG11	SMCJ11	BDY	BDY	12.2 / 14.9	1.0	11.0	5.0	78.0	20.1
SMCG11A	SMCJ11A	BDZ	BDZ	12.2 / 13.5	1.0	11.0	5.0	86.0	18.2
SMCG12	SMCJ12	BED	BED	13.3 / 16.3	1.0	12.0	5.0	71.0	22.0
SMCG12A	SMCJ12A	BEE	BEE	13.3 / 14.7	1.0	12.0	5.0	79.0	19.9
SMCG13	SMCJ13	GEF	GEF	14.4 / 17.6	1.0	13.0	5.0	66.0	23.8
SMCG13A	SMCJ13A	GEG	GEG	14.4 / 15.9	1.0	13.0	5.0	73.0	21.5
SMCG14	SMCJ14	BEH	BEH	15.6 / 19.1	1.0	14.0	5.0	61.0	25.8
SMCG14A	SMCJ14A	BEK	BEK	15.6 / 17.2	1.0	14.0	5.0	67.0	23.2
SMCG15	SMCJ15	BEL	BEL	16.7 / 20.4	1.0	15.0	5.0	58.0	26.9
SMCG15A	SMCJ15A	BEM	BEM	16.7 / 18.5	1.0	15.0	5.0	64.0	24.4
SMCG16	SMCJ16	GEN	GEN	17.8 / 21.8	1.0	16.0	5.0	54.0	28.8
SMCG16A	SMCJ16A	GEP	GEP	17.8 / 19.7	1.0	16.0	5.0	60.0	26.0
SMCG17	SMCJ17	GEQ	GEQ	18.9 / 23.1	1.0	17.0	5.0	51.0	30.5
SMCG17A	SMCJ17A	GER	GER	18.9 / 20.9	1.0	17.0	5.0	57.0	27.6
SMCG18	SMCJ18	BES	BES	20.0 / 24.4	1.0	18.0	5.0	48.0	32.2
SMCG18A	SMCJ18A	GET	BEW	20.0 / 22.1	1.0	18.0	5.0	53.0	29.2
SMCG20	SMCJ20	BEU	BEU	22.2 / 27.7	1.0	20.0	5.0	43.0	35.8
SMCG20A	SMCJ20A	BEV	BEV	22.2 / 24.5	1.0	20.0	5.0	48.0	32.4
SMCG22	SMCJ22	BEW	BEW	24.4 / 29.8	1.0	22.0	5.0	39.0	39.4
SMCG22A	SMCJ22A	BEX	BEX	24.4 / 26.9	1.0	22.0	5.0	44.0	35.5
SMCG24	SMCJ24	BEY	BEY	26.7 / 32.6	1.0	24.0	5.0	36.0	43.0
SMCG24A	SMCJ24A	BEZ	BEZ	26.7 / 29.5	1.0	24.0	5.0	40.0	38.9
SMCG26	SMCJ26	BFD	BFD	28.9 / 35.3	1.0	26.0	5.0	33.0	46.6
SMCG26A	SMCJ26A	BFE	BFE	28.9 / 31.9	1.0	26.0	5.0	37.0	42.1
SMCG28	SMCJ28	BFF	BFF	31.1 / 38.0	1.0	28.0	5.0	31.0	50.0
SMCG28A	SMCJ28A	BFG	BFG	31.1 / 34.4	1.0	28.0	5.0	34.0	45.4
SMCG30	SMCJ30	BFH	BFH	33.3 / 40.7	1.0	30.0	5.0	29.0	53.5
SMCG30A	SMCJ30A	BFK	BFK	33.3 / 36.8	1.0	30.0	5.0	32.0	48.4
SMCG33	SMCJ33	BFL	BFL	36.7 / 44.9	1.0	33.0	5.0	26.0	59.0
SMCG33A	SMCJ33A	BFM	BFM	36.7 / 40.6	1.0	33.0	5.0	29.0	53.3
SMCG36	SMCJ36	BFN	BFN	40.0 / 48.9	1.0	36.0	5.0	24.0	64.3
SMCG36A	SMCJ36A	BFP	BFP	40.0 / 44.2	1.0	36.0	5.0	27.0	58.1
SMCG40	SMCJ40	BFQ	BFQ	44.4 / 54.3	1.0	40.0	5.0	22.0	71.4
SMCG40A	SMCJ40A	BFR	BFR	44.4 / 49.1	1.0	40.0	5.0	24.0	64.5
SMCG43	SMCJ43	BFS	BFS	47.8 / 58.4	1.0	43.0	5.0	20.0	76.7
SMCG43A	SMCJ43A	BFT	BFT	47.8 / 52.8	1.0	43.0	5.0	22.0	69.4
SMCG45	SMCJ45	GFU	GFU	50.0 / 61.1	1.0	45.0	5.0	19.0	80.3
SMCG45A	SMCJ45A	GFV	GFV	50.0 / 55.3	1.0	45.0	5.0	21.0	72.7
SMCG48	SMCJ48	GFW	GFW	53.3 / 65.1	1.0	48.0	5.0	18.0	85.5
SMCG48A	SMCJ48A	GFY	GFY	53.3 / 58.9	1.0	48.0	5.0	20.0	77.4
SMCG51	SMCJ51	GFY	GFY	56.7 / 69.3	1.0	51.0	5.0	17.0	91.1
SMCG51A	SMCJ51A	GFZ	GFZ	56.7 / 62.7	1.0	51.0	5.0	19.0	82.4
SMCG54	SMCJ54	GDD	GDD	60.0 / 73.3	1.0	54.0	5.0	16.0	96.3
SMCG54A	SMCJ54A	GGE	GGE	60.0 / 66.3	1.0	54.0	5.0	18.0	87.1

ELECTRICAL CHARACTERISTICS at (T_A=25°C unless otherwise noted)

Device Type Gull Wing Lead	Device Type Modified "J" Bend Lead	Device Marking Code UNI	Device Marking Code BI	Breakdown Voltage V _{BR} (Volts) (NOTE 1) (MIN / MAX)	Test Current at I _T (mA)	Stand-off Voltage V _{WM} (Volts)	Maximum Reverse Leakage at V _{WM} (NOTE 3) I _D (μA)	Maximum Peak Pulse Surge Current I _{PPM} (NOTE 2) (Amps)	Maximum Clamping Voltage at I _{PPM} V _C (Volts)
SMCG58	SMCJ58	GGF	GGF	64.4 / 78.7	1.0	58	5.0	15.0	103.0
SMCG58A	SMCJ58A	GGG	GGG	64.4 / 71.2	1.0	58	5.0	16.0	93.6
SMCG60	SMCJ60	GGH	GGH	66.7 / 81.5	1.0	60	5.0	14.0	107.0
SMCG60A	SMCJ60A	GGK	GGK	66.7 / 73.7	1.0	60	5.0	16.0	96.8
SMCG64	SMCJ64	GGL	GGL	71.1 / 86.9	1.0	64	5.0	13.8	114.0
SMCG64A	SMCJ64A	GGM	GGM	71.1 / 78.6	1.0	64	5.0	15.0	103.0
SMCG70	SMCJ70	GGN	GGN	77.8 / 95.1	1.0	70	5.0	12.6	125.0
SMCG70A	SMCJ70A	GGP	GGP	77.8 / 86.0	1.0	70	5.0	13.9	113.0
SMCG75	SMCJ75	GGQ	GGQ	83.3 / 102	1.0	75	5.0	11.7	134.0
SMCG75A	SMCJ75A	GGR	GGR	83.3 / 92.1	1.0	75	5.0	13.0	121.0
SMCG78	SMCJ78	GGS	GGS	86.7 / 106	1.0	78	5.0	11.3	139.0
SMCG78A	SMCJ78A	GGT	GGT	86.7 / 95.8	1.0	78	5.0	12.5	126.0
SMCG85	SMCJ85	GGU	GGU	94.4 / 115	1.0	85	5.0	10.4	151.0
SMCG85A	SMCJ85A	GGV	GGV	94.4 / 104	1.0	85	5.0	11.5	137.0
SMCG90	SMCJ90	GGW	GGW	100 / 122	1.0	90	5.0	9.8	160.0
SMCG90A	SMCJ90A	GGX	GGX	100 / 111	1.0	90	5.0	10.7	146.0
SMCG100	SMCJ100	GGY	GGY	111 / 136	1.0	100	5.0	8.8	179.0
SMCG100A	SMCJ100A	GGZ	GGZ	111 / 123	1.0	100	5.0	9.7	162.0
SMCG110	SMCJ110	GHD	GHD	122 / 149	1.0	110	5.0	8.0	196.0
SMCG110A	SMCJ110A	GHE	GHE	122 / 135	1.0	110	5.0	8.9	177.0
SMCG120	SMCJ120	GHF	GHF	133 / 163	1.0	120	5.0	7.3	214.0
SMCG120A	SMCJ120A	GHG	GHG	133 / 147	1.0	120	5.0	8.1	193.0
SMCG130	SMCJ130	GHH	GHH	144 / 176	1.0	130	5.0	6.8	231.0
SMCG130A	SMCJ130A	GHK	GHK	144 / 159	1.0	130	5.0	7.5	209.0
SMCG150	SMCJ150	GHL	GHL	167 / 204	1.0	150	5.0	5.8	268.0
SMCG150A	SMCJ150A	GHM	GHM	167 / 185	1.0	150	5.0	6.4	243.0
SMCG160	SMCJ160	GHN	GHN	178 / 218	1.0	160	5.0	5.4	287.0
SMCG160A	SMCJ160A	GHP	GHP	178 / 197	1.0	160	5.0	6.0	259.0
SMCG170	SMCJ170	GHQ	GHQ	189 / 231	1.0	170	5.0	5.1	304.0
SMCG170A	SMCJ170A	GHR	GHR	189 / 209	1.0	170	5.0	5.7	275.0

NOTES:

- (1) V_{BR} measured after I_T applied for 300μs I_T=square wave pulse or equivalent
- (2) Surge current waveform per Fig. 3 and derate per Fig. 2
- (3) For bidirectional types having V_{WM} of 10 Volts and less, the I_D limit is doubled
- (4) All terms and symbols are consistent with ANSI/IEEE C62.35

APPLICATION NOTES

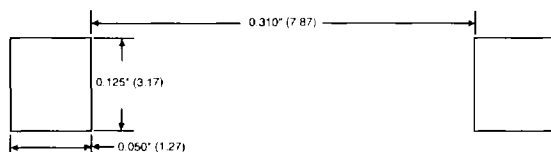
These surface mountable packages are designed specifically for transient voltage suppression. The wide leads assure a large surface contact for good heat dissipation, and a low resistance path for surge current flow to ground. These high speed transient voltage suppressors can be used to effectively protect sensitive components such as integrated circuits and MOS devices.

A 1500W (SMC) device is normally selected when the threat of transients is from lightning-induced transients conducted via external leads or I/O lines. It is also used to protect against switching transients induced by large coils or industrial motors. System impedance at component level in a system is usually high enough to limit the current to within the peak pulse current (I_{PP}) rating of this series.

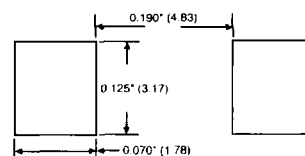
RECOMMENDED PAD SIZES

The pad dimensions should be 0.010" (0.25mm) longer than the contact size, in the lead axis.
This allows a solder fillet to form, see figure below. Contact factory for soldering methods.

GULL-WING



MODIFIED J-BEND



MAXIMUM RATINGS AND CHARACTERISTIC CURVES SMCG AND SMCJ5.0 THRU 170C, CA SERIES

FIG. 1 - PEAK PULSE POWER RATING CURVE

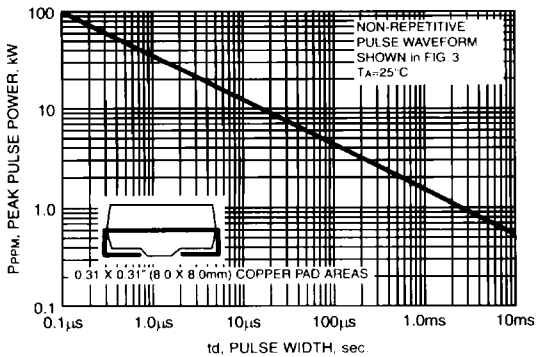


FIG. 2 - PULSE DERATING CURVE

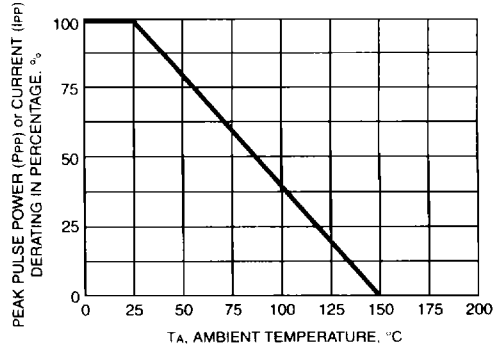


FIG. 3 - PULSE WAVEFORM

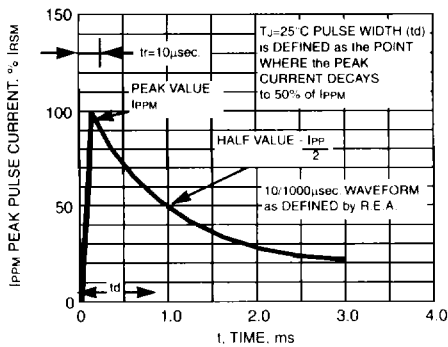


FIG. 4 - TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL

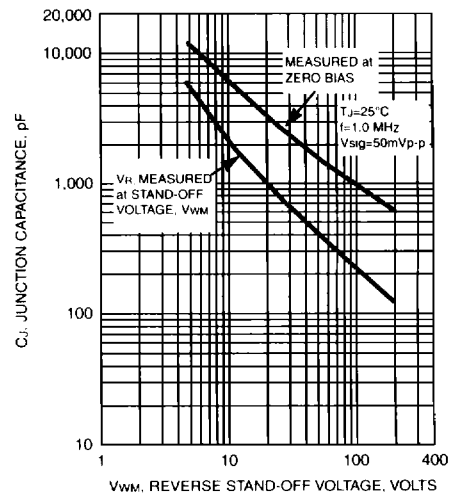


FIG. 5 - TYPICAL JUNCTION CAPACITANCE BIDIRECTIONAL

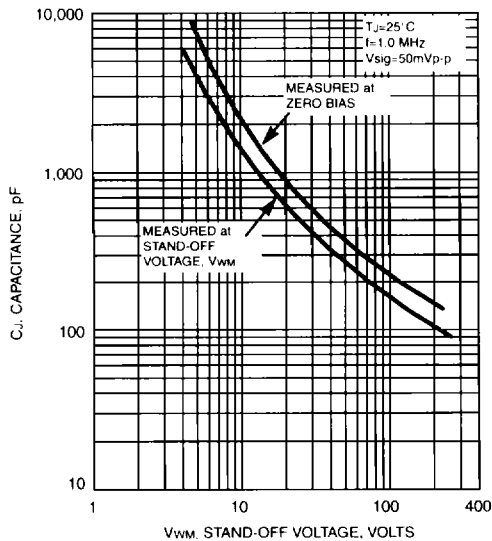


FIG. 6 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

