



ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
DEVICE TYPE MODIFIED GULL WING	DEVICE MARKING CODE		BREAKDOWN VOLTAGE V <sub>BR</sub> AT I <sub>T</sub> <sup>(1)</sup> (V)		TEST CURRENT I <sub>T</sub> (mA)	STAND-OFF VOLTAGE V <sub>WM</sub> (V)	MAXIMUM REVERSE LEAKAGE AT V <sub>WM</sub> I <sub>D</sub> (µA) <sup>(3)</sup>	MAXIMUM PULSE SURGE CURRENT I <sub>PPM</sub> (A) <sup>(2)</sup>	MAXIMUM CLAMPING VOLTAGE AT I <sub>PPM</sub> V <sub>C</sub> (V)
	UNI	BI	MIN.	MAX.					
(+)SMCG5.0A <sup>(5)</sup>	GDE	GDE	6.40	7.07	10	5.0	1000	163.0	9.20
(+)SMCG6.0A	GDG	GDG	6.67	7.37	10	6.0	1000	145.6	10.3
(+)SMCG6.5A	GDK	BDK	7.22	7.98	10	6.5	500	133.9	11.2
(+)SMCG7.0A	GDM	GDM	7.78	8.60	10	7.0	200	125.0	12.0
(+)SMCG7.5A	GDP	BDP	8.33	9.21	1.0	7.5	100	116.3	12.9
(+)SMCG8.0A	GDR	BDR	8.89	9.83	1.0	8.0	50	110.3	13.6
(+)SMCG8.5A	GDT	BDT	9.44	10.4	1.0	8.5	20	104.2	14.4
(+)SMCG9.0A	GDV	BDV	10.0	11.1	1.0	9.0	10	97.4	15.4
(+)SMCG10A	GDX	BDX	11.1	12.3	1.0	10	5.0	88.2	17.0
(+)SMCG11A	GDZ	GDZ	12.2	13.5	1.0	11	5.0	82.4	18.2
(+)SMCG12A	GEE	BEE	13.3	14.7	1.0	12	5.0	75.4	19.9
(+)SMCG13A	GEG	GEG	14.4	15.9	1.0	13	1.0	69.8	21.5
(+)SMCG14A	GEK	BEK	15.6	17.2	1.0	14	1.0	64.7	23.2
(+)SMCG15A	GEM	BEM	16.7	18.5	1.0	15	1.0	61.5	24.4
(+)SMCG16A	GEP	GEP	17.8	19.7	1.0	16	1.0	57.7	26.0
(+)SMCG17A	GER	GER	18.9	20.9	1.0	17	1.0	54.3	27.6
(+)SMCG18A	GET	BET	20.0	22.1	1.0	18	1.0	51.4	29.2
(+)SMCG20A	GEV	BEV	22.2	24.5	1.0	20	1.0	46.3	32.4
(+)SMCG22A	GEX	BEX	24.4	26.9	1.0	22	1.0	42.3	35.5
(+)SMCG24A	GEZ	BEZ	26.7	29.5	1.0	24	1.0	38.6	38.9
(+)SMCG26A	GFE	BFE	28.9	31.9	1.0	26	1.0	35.6	42.1
(+)SMCG28A	GFG	BFG	31.1	34.4	1.0	28	1.0	33.0	45.4
(+)SMCG30A	GFK	BFK	33.3	36.8	1.0	30	1.0	31.0	48.4
(+)SMCG33A	GFM	BFM	36.7	40.6	1.0	33	1.0	28.1	53.3
(+)SMCG36A	GFP	BFP	40.0	44.2	1.0	36	1.0	25.8	58.1
(+)SMCG40A	GFR	BFR	44.4	49.1	1.0	40	1.0	23.3	64.5
(+)SMCG43A	GFT	BFT	47.8	52.8	1.0	43	1.0	21.6	69.4
(+)SMCG45A	GFV	GFV	50.0	55.3	1.0	45	1.0	20.6	72.7
(+)SMCG48A	GFX	GFX	53.3	58.9	1.0	48	1.0	19.4	77.4
(+)SMCG51A	GFZ	GFZ	56.7	62.7	1.0	51	1.0	18.2	82.4
(+)SMCG54A	GGE	GGE	60.0	66.3	1.0	54	1.0	17.2	87.1
(+)SMCG58A	GGG	GGG	64.4	71.2	1.0	58	1.0	16.0	93
(+)SMCG60A	GGK	GGK	66.7	73.7	1.0	60	1.0	15.5	96
(+)SMCG64A	GGM	GGM	71.1	78.6	1.0	64	1.0	14.6	103
(+)SMCG70A	GGP	GGP	77.8	86.0	1.0	70	1.0	13.3	113
(+)SMCG75A	GGR	GGR	83.3	92.1	1.0	75	1.0	12.4	121
(+)SMCG78A	GGT	GGT	86.7	95.8	1.0	78	1.0	11.9	126
(+)SMCG85A	GGV	GGV	94.4	104	1.0	85	1.0	10.9	137
(+)SMCG90A	GGX	GGX	100	111	1.0	90	1.0	10.3	146
(+)SMCG100A	GGZ	GGZ	111	123	1.0	100	1.0	9.3	162
(+)SMCG110A	GHE	GHE	122	135	1.0	110	1.0	8.5	177
(+)SMCG120A	GHG	GHG	133	147	1.0	120	1.0	7.8	193
(+)SMCG130A	GHK	GHK	144	159	1.0	130	1.0	7.2	209
(+)SMCG150A	GHM	GHM	167	185	1.0	150	1.0	6.2	243
(+)SMCG160A	GHP	GHP	178	197	1.0	160	1.0	5.8	259
(+)SMCG170A	GHR	GHR	189	209	1.0	170	1.0	5.5	275
SMCG188A	GHS	GHS	209	231	1.0	188	1.0	4.6	328

**Notes**

- (1) Pulse test: t<sub>p</sub> ≤ 50 ms
- (2) Surge current waveform per fig. 3 and derate per fig. 2
- (3) For bi-directional types having V<sub>WM</sub> of 10 V and less, the I<sub>D</sub> limit is doubled
- (4) All terms and symbols are consistent with ANSI/IEEE C62.35
- (5) For the bi-directional SMCG5.0CA, the maximum V<sub>BR</sub> is 7.25 V
- (6) V<sub>F</sub> = 3.5 V at I<sub>F</sub> = 100 A (uni-directional only)
- (+) Underwriters laboratory recognition for the classification of protectors (QVGQ2) under the UL standard for safety 497B and file number E136766 for both uni-directional and bi-directional devices

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Typical thermal resistance, junction to ambient <sup>(1)</sup>	$R_{\theta JA}$	75	°C/W
Typical thermal resistance, junction to lead	$R_{\theta JL}$	15	

**Note**

<sup>(1)</sup> Measured on minimum recommended pad layout

<b>ORDERING INFORMATION</b> (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SMCG5.0A-E3/57T	0.211	57T	850	7" diameter plastic tape and reel
SMCG5.0A-E3/9AT	0.211	9AT	3500	13" diameter plastic tape and reel
SMCG5.0AHE3/57T <sup>(1)</sup>	0.211	57T	850	7" diameter plastic tape and reel
SMCG5.0AHE3/9AT <sup>(1)</sup>	0.211	9AT	3500	13" diameter plastic tape and reel

**Note**

<sup>(1)</sup> AEC-Q101 qualified

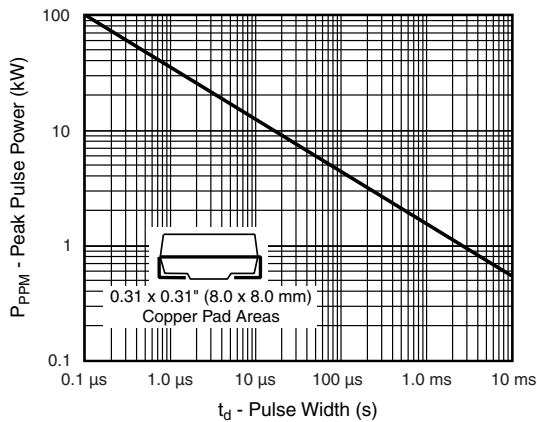
**RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)


Fig. 1 - Peak Pulse Power Rating Curve

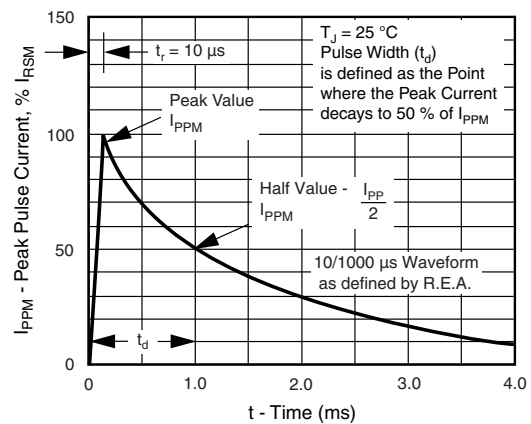


Fig. 3 - Pulse Waveform

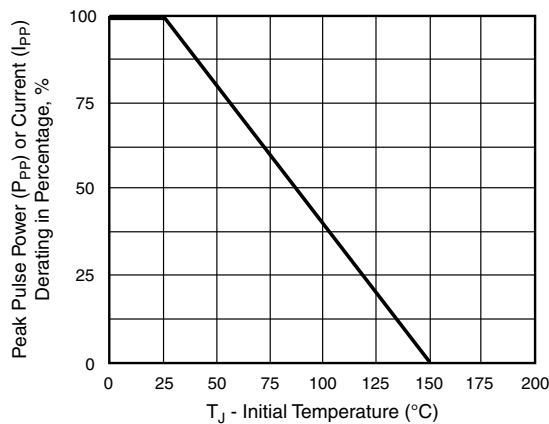


Fig. 2 - Pulse Power or Current vs. Initial Junction Temperature

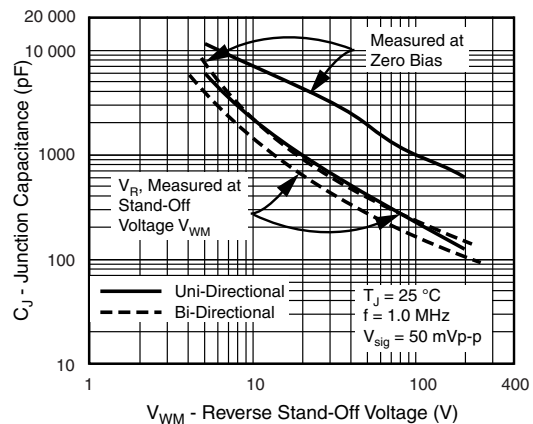


Fig. 4 - Typical Junction Capacitance Uni-Directional

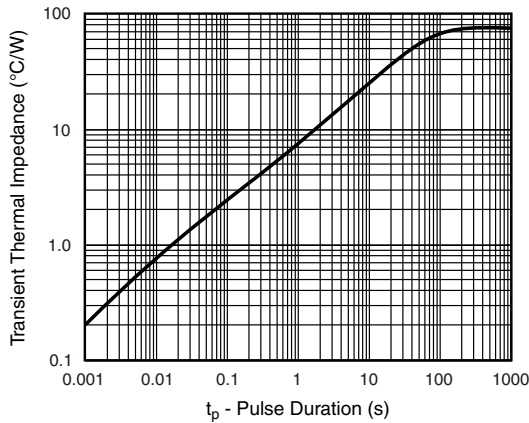


Fig. 5 - Typical Transient Thermal Impedance

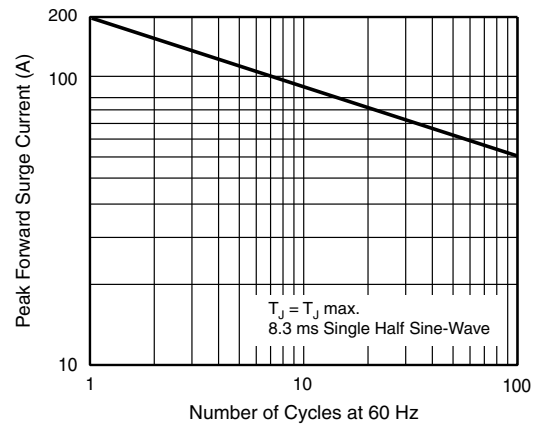
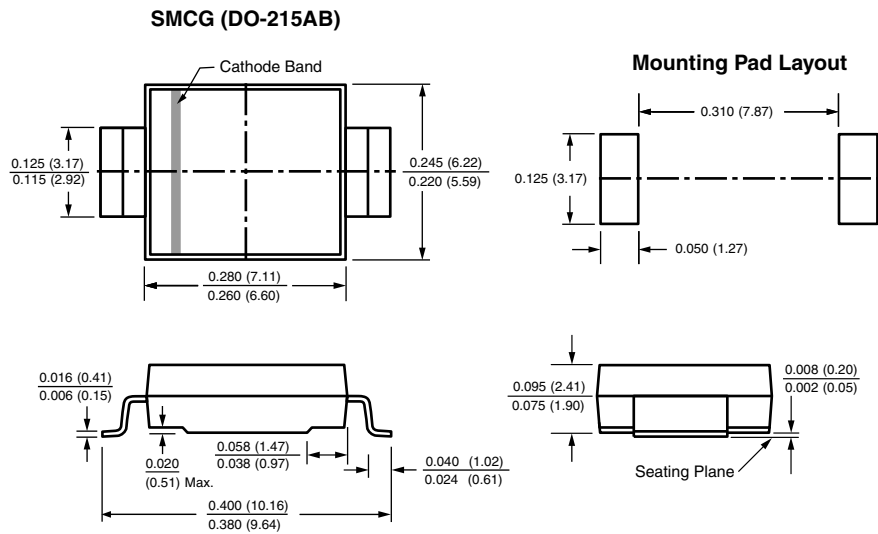


Fig. 6 - Maximum Non-Repetitive Peak Forward Surge Current  
Uni-Directional Use Only

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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