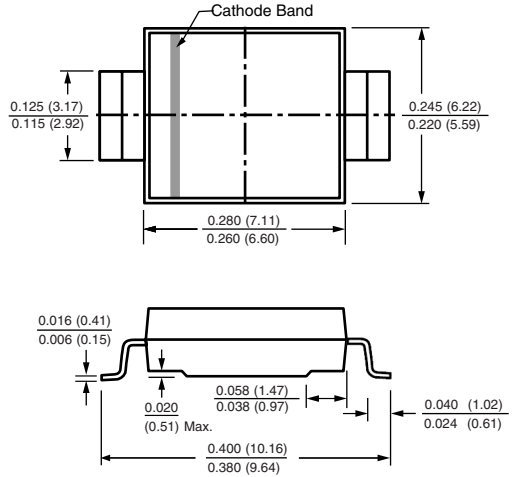




### DO-215AB

## Features

- ✧ For surface mounted application in order to optimize board space
- ✧ Low profile package
- ✧ Built-in strain relief
- ✧ Glass passivated junction
- ✧ Excellent clamping capability
- ✧ Fast response time: Typically less than 1.0ps from 0 volt to BV min.
- ✧ Typical  $I_R$  less than 1  $\mu$ A above 10V
- ✧ High temperature soldering guaranteed: 260°C / 10 seconds at terminals
- ✧ Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0
- ✧ 1500 watts peak pulse power capability with a 10 x 1000 us waveform by 0.01% duty cycle



## Mechanical Data

Dimensions in inches and (millimeters)

- ✧ Case: DO-215AB Molded plastic
- ✧ Terminals: Solder plated
- ✧ Polarity: Indicated by cathode band
- ✧ Weight: 0.21gram

## Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Type Number	Symbol	Value	Units
Peak Power Dissipation at $T_A=25^\circ\text{C}$ , $T_p=1\text{ms}$ ( Note 1)	$P_{PK}$	Minimum 1500	Watts
Power Dissipation on Intinite Heatsink, $T_A=50^\circ\text{C}$	$P_{M(AV)}$	6.5	W
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) (Note 2, 3) - Unidirectional Only	$I_{FSM}$	200	Amps
Thermal Resistance Junction to Ambient Air (Note 4)	$R_{\theta JA}$	50	$^\circ\text{C/W}$
Thermal Resistance Junction to Leads	$R_{\theta JL}$	15	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150	$^\circ\text{C}$

- Notes:
1. Non-repetitive Current Pulse Per Fig. 3 and Derated above  $T_A=25^\circ\text{C}$  Per Fig. 2.
  2. Mounted on 8.0mm<sup>2</sup> (.013mm Thick) Copper Pads to Each Terminal.
  3. 8.3ms Single Half Sine-wave or Equivalent Square Wave, Duty Cycle=4 Pulses Per Minute Maximum.
  4. Mounted on 5.0mm<sup>2</sup> (.013mm thick) land areas.

### Devices for Bipolar Applications

1. For Bidirectional Use C or CA Suffix for Types SMCG6.8 through Types SMCG200A.
2. Electrical Characteristics Apply in Both Directions.

### RATINGS AND CHARACTERISTIC CURVES (SMCG SERIES)

FIG.1- PEAK PULSE POWER RATING CURVE

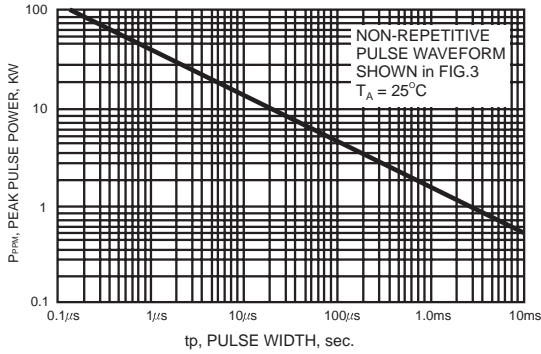


FIG.2- PULSE DERATING CURVE

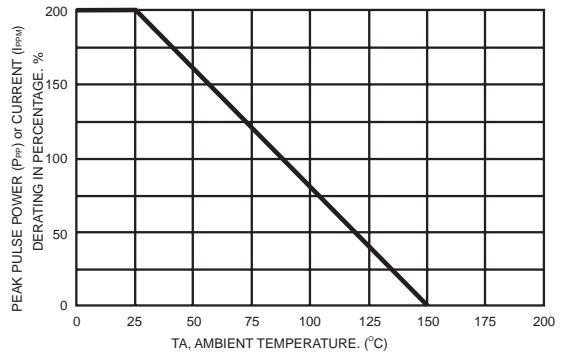


FIG.3- CLAMPING POWER PULSE WAVEFORM

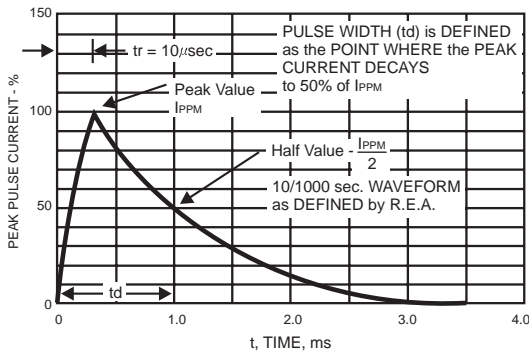


FIG.4- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY

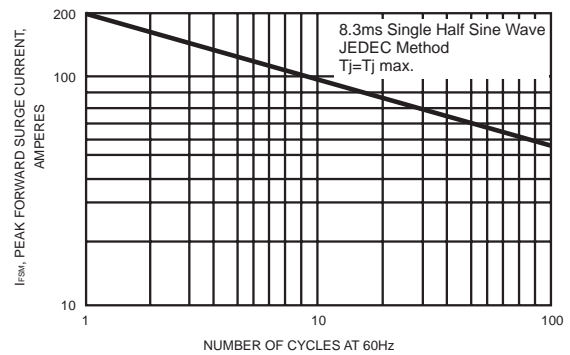
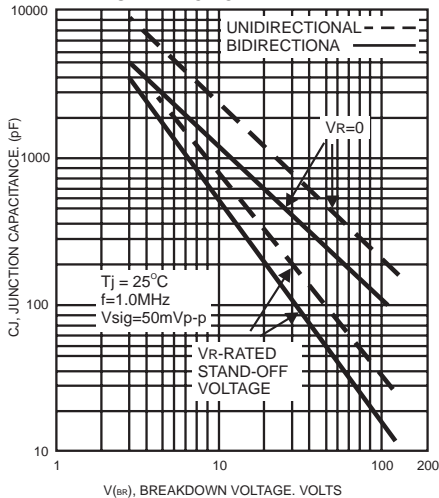


FIG.5- TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL





# SMCG SERIES

1500 Watts Surface Mount Transient Voltage Suppressor

## ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

GENERAL PART	Breakdown Voltage		Test Current @I <sub>r</sub> (mA)	Stand-Off Voltage V <sub>WM</sub> (Volts)	Maximum Reverse Leakage at V <sub>WM</sub> I <sub>b</sub> (uA)	Maximum Peak Surge Current I <sub>PPM</sub> (Note 2)(Amps)	Maximum Clamping Voltage at I <sub>PPM</sub> V <sub>c</sub> (volts)	Maximum Temperature Coefficient of V <sub>BR</sub> (% / °C)
	V <sub>BR</sub> (Volts) (Note 1)							
	Min	Max						
SMCG6.8	6.12	7.48	10	5.50	1000	145	10.8	0.057
SMCG6.8A	6.45	7.14	10	5.80	1000	150	10.5	0.057
SMCG7.5	6.75	8.25	10	6.05	500	134	11.7	0.061
SMCG7.5A	7.13	7.88	10	6.40	500	139	11.3	0.061
SMCG8.2	7.38	9.02	10	6.63	200	126	12.5	0.065
SMCG8.2A	7.79	8.61	10	7.02	200	130	12.1	0.065
SMCG9.1	8.19	10.0	1.0	7.37	50	114	13.8	0.068
SMCG9.1A	8.65	9.55	1.0	7.78	50	117	13.4	0.068
SMCG10	9.00	11.0	1.0	8.10	10	105	15.0	0.073
SMCG10A	9.50	10.5	1.0	8.55	10	108	14.5	0.073
SMCG11	9.90	12.1	1.0	8.92	5.0	97	16.2	0.075
SMCG11A	10.5	11.6	1.0	9.40	5.0	100	15.6	0.075
SMCG12	10.8	13.2	1.0	9.72	5.0	91	17.3	0.078
SMCG12A	11.4	12.6	1.0	10.2	5.0	94	16.7	0.078
SMCG13	11.7	14.3	1.0	10.5	5.0	82	19.0	0.081
SMCG13A	12.4	13.7	1.0	11.1	5.0	86	18.2	0.081
SMCG15	13.5	16.5	1.0	12.1	5.0	71	22.0	0.084
SMCG15A	14.3	15.8	1.0	12.8	5.0	74	21.2	0.084
SMCG16	14.4	17.6	1.0	12.9	5.0	67	23.5	0.086
SMCG16A	15.2	16.8	1.0	13.6	5.0	70	22.5	0.086
SMCG18	16.2	19.8	1.0	14.5	5.0	59	26.5	0.088
SMCG18A	17.1	18.9	1.0	15.3	5.0	60	25.2	0.088
SMCG20	18.0	22.0	1.0	16.2	5.0	54	29.1	0.090
SMCG20A	19.0	21.0	1.0	17.1	5.0	56	27.7	0.090
SMCG22	19.8	24.2	1.0	17.8	5.0	49	31.9	0.092
SMCG22A	20.9	23.1	1.0	18.8	5.0	51	30.6	0.092
SMCG24	21.6	26.4	1.0	19.4	5.0	45	34.7	0.094
SMCG24A	22.8	25.2	1.0	20.5	5.0	47	33.2	0.094
SMCG27	24.3	29.7	1.0	21.8	5.0	40	39.1	0.096
SMCG27A	25.7	28.4	1.0	23.1	5.0	42	37.5	0.096
SMCG30	27.0	33.0	1.0	24.3	5.0	36	43.5	0.097
SMCG30A	28.5	31.5	1.0	25.6	5.0	38	41.4	0.097
SMCG33	29.7	36.3	1.0	26.8	5.0	33	47.7	0.098
SMCG33A	31.4	34.7	1.0	28.2	5.0	34	45.7	0.098
SMCG36	32.4	39.6	1.0	29.1	5.0	30	52.0	0.099
SMCG36A	34.2	37.8	1.0	30.8	5.0	31	49.9	0.099
SMCG39	35.1	42.9	1.0	31.6	5.0	27	56.4	0.100
SMCG39A	37.1	41.0	1.0	33.3	5.0	29	53.9	0.100
SMCG43	38.7	47.3	1.0	34.8	5.0	25	61.9	0.101
SMCG43A	40.9	45.2	1.0	36.8	5.0	26	59.3	0.101
SMCG47	42.3	51.7	1.0	38.1	5.0	23	67.8	0.101
SMCG47A	44.7	49.4	1.0	40.2	5.0	24	64.8	0.101
SMCG51	45.9	56.1	1.0	41.3	5.0	21	73.5	0.102
SMCG51A	48.5	53.6	1.0	43.6	5.0	22	70.1	0.102
SMCG56	50.4	61.8	1.0	45.4	5.0	19	80.5	0.103
SMCG56A	53.2	58.8	1.0	47.8	5.0	20	77.0	0.103
SMCG62	55.8	68.2	1.0	50.2	5.0	17	89.0	0.104
SMCG62A	58.9	65.1	1.0	53.0	5.0	18	85.0	0.104
SMCG68	61.2	74.8	1.0	55.1	5.0	16	98.0	0.104
SMCG68A	64.6	71.4	1.0	58.1	5.0	17	92.0	0.104
SMCG75	67.5	82.5	1.0	60.7	5.0	14	108.0	0.105
SMCG75A	71.3	78.8	1.0	64.1	5.0	15	103.0	0.105
SMCG82	73.8	90.2	1.0	66.4	5.0	13	118.0	0.105
SMCG82A	77.9	86.1	1.0	70.1	5.0	13.9	113.0	0.105
SMCG91	81.9	100.0	1.0	73.7	5.0	12	131.0	0.106
SMCG91A	86.5	95.50	1.0	77.8	5.0	12.6	125.0	0.106



# SMCG SERIES

1500 Watts Surface Mount Transient Voltage Suppressor

## ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

GENERAL PART	Breakdown Voltage		Test Current @I <sub>T</sub> (mA)	Stand-Off Voltage V <sub>WM</sub> (Volts)	Maximum Reverse Leakage at V <sub>WM</sub> I <sub>D</sub> (uA)	Maximum Peak Surge Current I <sub>PPM</sub> (Note 2)(Amps)	Maximum Clamping Voltage at I <sub>PPM</sub> V <sub>C</sub> (volts)	Maximum Temperature Coefficient of V <sub>BR</sub> (% / °C)
	V <sub>BR</sub> (Volts) (Note 1)							
	Min	Max						
SMCG100	90.0	110.0	1.0	81.0	5.0	10.9	144.0	0.106
SMCG100A	95.0	105.0	1.0	85.5	5.0	11.4	137.0	0.106
SMCG110	99.0	121.0	1.0	89.2	5.0	9.9	158.0	0.107
SMCG110A	105.0	116.0	1.0	94.0	5.0	10.3	152.0	0.107
SMCG120	108.0	132.0	1.0	97.2	5.0	9.1	173.0	0.107
SMCG120A	114.0	126.0	1.0	102.0	5.0	9.5	165.0	0.107
SMCG130	117.0	143.0	1.0	106.0	5.0	8.4	187.0	0.107
SMCG130A	124.0	137.0	1.0	111.0	5.0	8.7	179.0	0.107
SMCG150	135.0	165.0	1.0	121.0	5.0	7.3	215.0	0.108
SMCG150A	143.0	158.0	1.0	128.0	5.0	7.6	207.0	0.108
SMCG160	144.0	176.0	1.0	130.0	5.0	6.8	230.0	0.108
SMCG160A	152.0	168.0	1.0	136.0	5.0	7.1	219.0	0.108
SMCG170	153.0	187.0	1.0	138.0	5.0	6.4	244.0	0.108
SMCG170A	162.0	179.0	1.0	145.0	5.0	6.7	234.0	0.108
SMCG180	162.0	198.0	1.0	146.0	5.0	6.1	258.0	0.108
SMCG180A	171.0	189.0	1.0	154.0	5.0	6.4	246.0	0.108
SMCG200	180.0	220.0	1.0	162.0	5.0	5.4	287.0	0.108
SMCG200A	190.0	210.0	1.0	171.0	5.0	5.7	274.0	0.108

1. V<sub>BR</sub> measured after I<sub>T</sub> applied for 300us, I<sub>T</sub>=square wave pulse or equivalent.
2. Surge current waveform per Figure 3 and derate per Figure 2.
3. For bipolar types having V<sub>WM</sub> of 10 volts and under, the I<sub>D</sub> limit is doubled.