3.0SMDG Series

Surface Mount Transient Voltage Suppressor

Stand-off Voltage : 11 to 220V
Peak Pulse Power : 3000 W

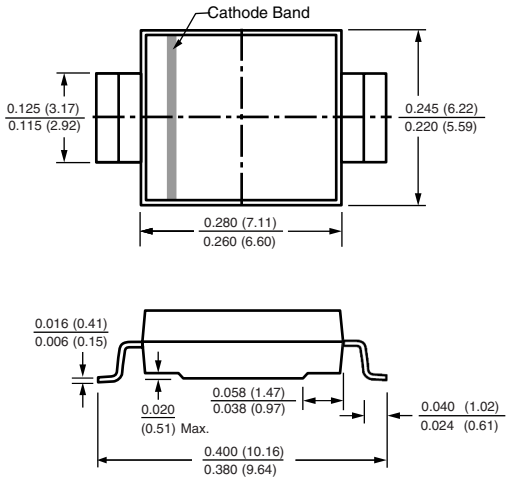
Features

- ✧ 3000W peak pulse power capability with a 10/1000μs waveform
- ✧ Excellent clamping capability
- ✧ Low inductance
- ✧ High temperature soldering : 250 °C/10 seconds at terminals.
- ✧ Built-in stran relief

Mechanical Data

- ✧ Case : DO-215AB Molded plastic
- ✧ Lead : Lead Formed for Surface Mount
- ✧ Mounting position : Any
- ✧ Weight : 0.21 gram

DO-215AB



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000 μs waveform (1) (2)	P_{PPM}	3000	W
Peak Pulse Current on 10/1000 s waveform (1)	I_{PPM}	See Next Table	A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (2)(3)	I_{FSM}	200	A
Operating Junction and Storage Temperature Range	T_J, T_{STG}	- 55 to + 150	°C

Notes :

(1) Non-repetitive Current pulse, per Fig. 3 and derated above Ta = 25 °C per Fig. 1

(2) Mounted on 5.0 mm2 (0.013 thick) land areas.

(3) Measured on 8.3 ms , single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum.

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ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

Type	Breakdown Voltage @ I_T (1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ V_{WM}	Maximum Clamping Voltage @ I_{PPM}	Maximum Peak Pulse Surge Current
	V_{BR} (V)		I_T	V_{RWM}	I_R	V_C	I_{PPM}
	Min.	Max.	(mA)	(V)	(μA)	(V)	(A)
3.0SMDG11C	12.2	15.4	1.0	11	1000	20.1	149.2
3.0SMDG11CA	12.2	14.0	1.0	11	1000	18.2	184.8
3.0SMDG12C	13.3	16.9	1.0	12	1000	22.0	136.4
3.0SMDG12CA	13.3	15.3	1.0	12	1000	19.9	150.6
3.0SMDG13C	14.4	18.2	1.0	13	500	23.8	126.0
3.0SMDG13CA	14.4	16.5	1.0	13	500	21.5	139.4
3.0SMDG14C	15.6	19.8	1.0	14	200	25.8	116.2
3.0SMDG14CA	15.6	17.9	1.0	14	200	23.2	129.4
3.0SMDG15C	16.7	21.1	1.0	15	100	26.9	111.6
3.0SMDG15CA	16.7	19.2	1.0	15	100	24.4	123.0
3.0SMDG16C	17.8	22.6	1.0	16	50	28.8	104.2
3.0SMDG16CA	17.8	20.5	1.0	16	50	26.0	115.4
3.0SMDG17C	18.9	23.9	1.0	17	20	30.5	98.4
3.0SMDG17CA	18.9	21.7	1.0	17	20	27.6	106.6
3.0SMDG18C	20.0	25.3	1.0	18	10	32.2	93.2
3.0SMDG18CA	20.0	23.3	1.0	18	10	29.2	102.8
3.0SMDG20C	22.2	28.1	1.0	20	10	35.8	83.8
3.0SMDG20CA	22.2	25.5	1.0	20	10	32.4	92.6
3.0SMDG22C	24.4	30.9	1.0	22	5	39.4	76.2
3.0SMDG22CA	24.4	28.0	1.0	22	5	35.5	84.4
3.0SMDG24C	26.7	33.8	1.0	24	5	43.0	69.8
3.0SMDG24CA	26.7	30.7	1.0	24	5	38.9	77.2
3.0SMDG26C	28.9	36.6	1.0	26	5	46.6	64.4
3.0SMDG26CA	28.9	33.2	1.0	26	5	42.1	71.2
3.0SMDG28C	31.1	39.4	1.0	28	5	50.0	60.0
3.0SMDG28CA	31.1	35.8	1.0	28	5	45.4	66.0
3.0SMDG30C	33.3	42.2	1.0	30	5	53.5	56.0
3.0SMDG30CA	33.3	38.3	1.0	30	5	48.4	62.0
3.0SMDG33C	36.7	46.5	1.0	33	5	59.0	50.4
3.0SMDG33CA	36.7	42.2	1.0	33	5	53.3	56.2
3.0SMDG36C	40.0	50.7	1.0	36	5	64.3	46.6
3.0SMDG36CA	40.0	46.0	1.0	36	5	58.1	51.6
3.0SMDG40C	44.4	56.3	1.0	40	5	71.4	42.0
3.0SMDG40CA	44.4	51.1	1.0	40	5	64.5	46.4
3.0SMDG43C	47.8	60.5	1.0	43	5	76.7	39.2
3.0SMDG43CA	47.8	54.9	1.0	43	5	69.4	43.2
3.0SMDG45C	50.0	63.3	1.0	45	5	80.3	37.4
3.0SMDG45CA	50.0	57.5	1.0	45	5	72.7	41.2
3.0SMDG48C	53.3	67.5	1.0	48	5	85.5	35.0
3.0SMDG48CA	53.3	61.3	1.0	48	5	77.4	38.8
3.0SMDG51C	56.7	71.8	1.0	51	5	91.1	37.0
3.0SMDG51CA	56.7	65.2	1.0	51	5	82.4	36.4
3.0SMDG54C	60.0	76.0	1.0	54	5	96.3	31.2
3.0SMDG54CA	60.0	69.0	1.0	54	5	87.1	34.4

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ELECTRICAL CHARACTERISTICS

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Type	Breakdown Voltage @ I_T (1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ V_{WM}	Maximum Clamping Voltage @ I_{PPM}	Maximum Peak Pulse Surge Current
	V_{BR} (V)		I_T	V_{RWM}	I_R	V_C	I_{PPM}
	Min.	Max.	(mA)	(V)	(μA)	(V)	(A)
3.0SMDG58C	64.4	81.6	1.0	58	5	103	39.2
3.0SMDG58CA	64.4	74.1	1.0	58	5	93.6	32.0
3.0SMDG60C	66.7	84.5	1.0	60	5	107	28.0
3.0SMDG60CA	66.7	76.7	1.0	60	5	96	31.0
3.0SMDG64C	71.1	90.1	1.0	64	5	114	26.4
3.0SMDG64CA	71.1	81.8	1.0	64	5	103	29.2
3.0SMDG70C	77.8	98.6	1.0	70	5	125	24.0
3.0SMDG70CA	77.8	89.5	1.0	70	5	113	26.6
3.0SMDG75C	83.3	105.7	1.0	75	5	134	22.4
3.0SMDG75CA	83.3	95.8	1.0	75	5	121	24.8
3.0SMDG78C	86.7	109.8	1.0	78	5	139	21.6
3.0SMDG78CA	86.7	99.7	1.0	78	5	126	22.8
3.0SMDG85C	94.4	119.2	1.0	85	5	151	19.8
3.0SMDG85CA	94.4	108.2	1.0	85	5	137	20.8
3.0SMDG90C	100	126.5	1.0	90	5	160	18.8
3.0SMDG90CA	100	115.5	1.0	90	5	146	20.6
3.0SMDG100C	111	141.0	1.0	100	5	179	16.6
3.0SMDG100CA	111	128.0	1.0	100	5	162	18.6
3.0SMDG110C	122	154.5	1.0	110	5	196	15.4
3.0SMDG110CA	122	140.5	1.0	110	5	177	16.8
3.0SMDG120C	133	169.0	1.0	120	5	214	14.0
3.0SMDG120CA	133	153.0	1.0	120	5	193	15.6
3.0SMDG130C	144	182.5	1.0	130	5	231	13.0
3.0SMDG130CA	144	165.5	1.0	130	5	209	14.4
3.0SMDG150C	167	211.5	1.0	150	5	268	11.2
3.0SMDG150CA	167	192.5	1.0	150	5	243	12.4
3.0SMDG160C	178	226.0	1.0	160	5	287	10.4
3.0SMDG160CA	178	205.0	1.0	160	5	259	11.6
3.0SMDG170C	189	239.5	1.0	170	5	304	9.8
3.0SMDG170CA	189	217.5	1.0	170	5	275	11.0
3.0SMDG180C	198	253.8	1.0	180	5	322	9.3
3.0SMDG180CA	198	230.4	1.0	180	5	292	10.3
3.0SMDG190C	209	267.9	1.0	190	5	340	8.8
3.0SMDG190CA	209	243.2	1.0	190	5	308	9.7
3.0SMDG200C	220	282.0	1.0	200	5	358	8.4
3.0SMDG200CA	220	256.0	1.0	200	5	324	9.3
3.0SMDG210C	231	296.1	1.0	210	5	376	7.8
3.0SMDG210CA	231	268.8	1.0	210	5	340	8.8
3.0SMDG220C	242	310.2	1.0	220	5	394	7.6
3.0SMDG220CA	242	281.6	1.0	220	5	356	8.4

Notes :

Pulse test : tp ≤ 50ms.

"SMDG" will be omitted on marking of the diode.

For uni-directional without "C" Electrical characteristics apply in both directions

3.0SMDG Series

Surface Mount Transient Voltage Suppressor

RATING AND CHARACTERISTIC CURVES (3.0SMDG11C - 220CA)

FIG.1 - PULSE DERATING CURVE

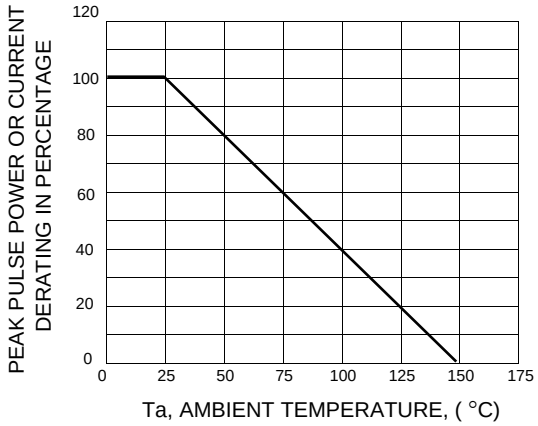

FIG.2 - TYPICAL JUNCTION CAPACITANCE

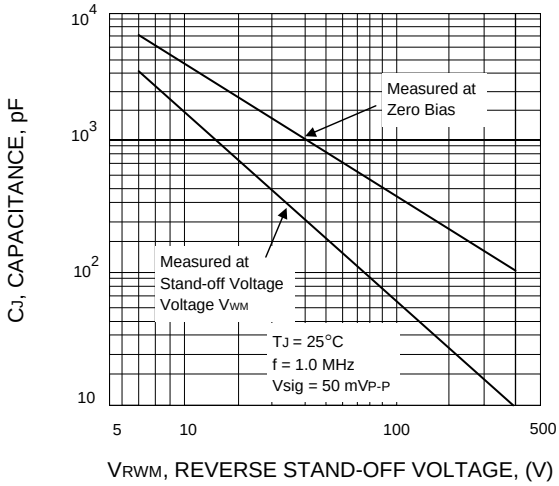

FIG.3 - PULSE WAVEFORM

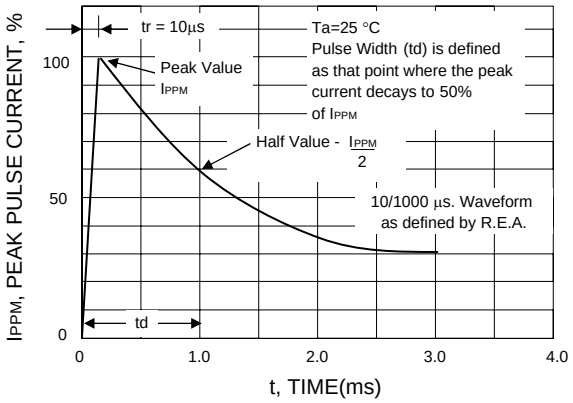

FIG.4 - PEAK PULSE POWER RATING CURVE