



SA SERIES

Glass Passivated Unidirectional and Bidirectional Transient Voltage Suppressors

Reverse Voltage 6.8 to 220 Volts Peak Pulse Power 500 Watts

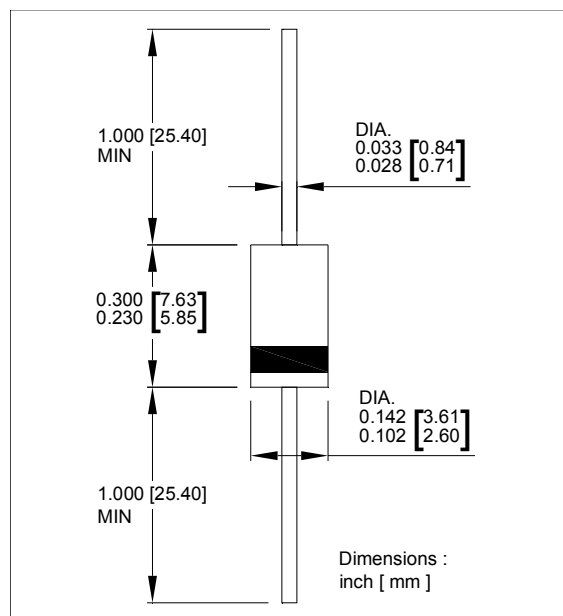
Features

- Glass passivated chip
- 500W peak pulse power capability with a 10/1000 μ S waveform, repetitive rate(duty cycle):0.01%
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202,Method 208 guaranteed
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

DO-15



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

Focapacitive load, derate current by 20%

Parameter	Symbol	Value	Unit
Peak Power dissipation with a 10/100 μ S waveform	P _{PP}	Minimum 1500	Watts
Peak pulse current with a 10/1000 μ s waveform	I _{PP}	See Next Table	Amps
Power dissipation on infinite heatsink at T _L =75 °C	P _D	3.0	Watts
Peak forward surge current, 8.3ms single half sine-wave unidirectional only ⁽¹⁾	I _{FSM}	70	Amps
Maximum instantaneous forward voltage at 25A for unidirectional only	V _F	3.5	Volts
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

Note:

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

RATING AND CHARACTERISTIC CURVES

Fig. 1 - Pulse Derating Curve

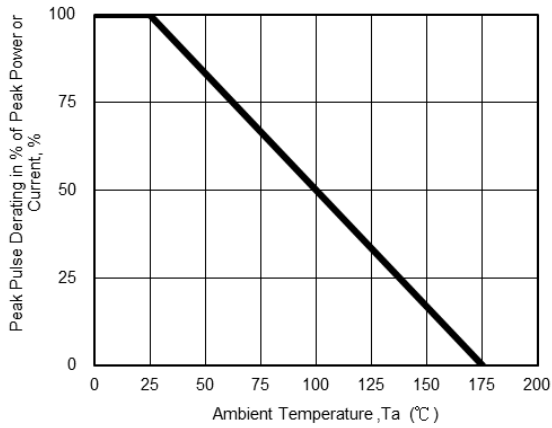


Fig. 2 - Maximum Non-Repetitive

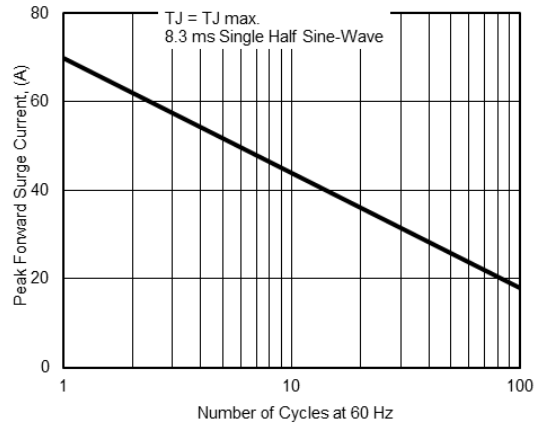


Fig. 3 - Steady State Power Derating Curve

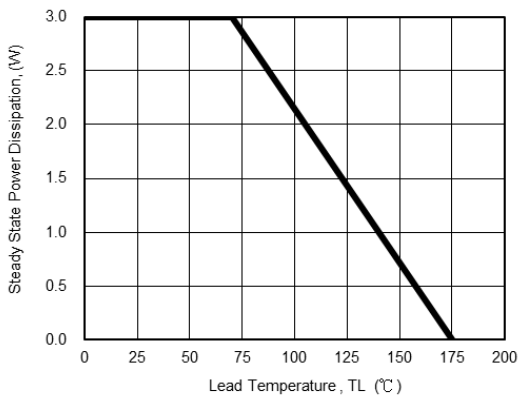


Fig. 4 - Peak Pulse Power Rating Curve

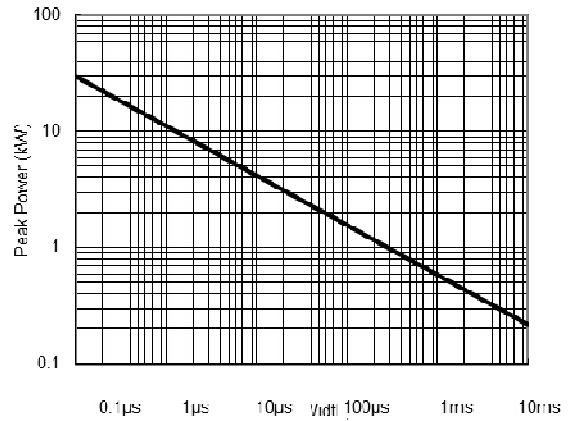
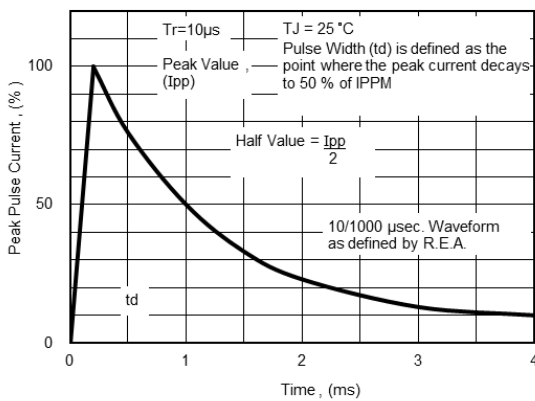


Fig. 5 - Pulse Waveform



LIFANG ELECTRONICS SA SERIES		Breakdown voltage VBR @ IT			Maximum Reverse Leakage IR(uA) @VRWM	Working PeakReverse Voltage VRWM (Volts)	Maximum Reverse Surge Current Ipp(A) @10x1000us sinewave	Maximum Clamping Voltage Vc (Volts) @Ipp
		Uni-polar	Bi-polar	Min (V)				
SA5.0	SA5.0C	6.40	7.30	10	600	5.0	52.1	9.6
SA5.0A	SA5.0CA	6.40	7.00	10	600	5.0	54.3	9.2
SA6.0	SA6.0C	6.67	8.15	10	600	6.0	43.9	11.4
SA6.0A	SA6.0CA	6.67	7.37	10	600	6.0	48.5	10.3
SA6.5	SA6.5C	7.22	8.82	10	400	6.5	40.7	12.3
SA6.5A	SA6.5CA	7.22	7.98	10	400	6.5	44.6	11.2
SA7.0	SA7.0C	7.78	9.51	10	150	7.0	37.6	13.3
SA7.0A	SA7.0CA	7.78	8.60	10	150	7.0	41.7	12.0
SA7.5	SA7.5C	8.33	10.2	1	50	7.5	35.0	14.3
SA7.5A	SA7.5CA	8.33	9.21	1	50	7.5	38.8	12.9
SA8.0	SA8.0C	8.89	10.9	1	25	8.0	33.3	15.0
SA8.0A	SA8.0CA	8.89	9.83	1	25	8.0	36.8	13.6
SA8.5	SA8.5C	9.44	11.5	1	5	8.5	31.4	15.9
SA8.5A	SA8.5CA	9.44	10.4	1	5	8.5	34.7	14.4
SA9.0	SA9.0C	10.0	12.2	1	5	9.0	29.6	16.9
SA9.0A	SA9.0CA	10.0	11.1	1	5	9.0	32.5	15.4
SA10	SA10C	11.1	13.6	1	5	10	26.6	18.8
SA10A	SA10CA	11.1	12.3	1	5	10	29.4	17.0
SA11	SA11C	12.2	14.9	1	5	11	24.9	20.1
SA11A	SA11CA	12.2	13.5	1	5	11	27.5	18.2
SA12	SA12C	13.3	16.3	1	5	12	22.7	22.0
SA12A	SA12CA	13.3	14.7	1	5	12	25.1	19.9
SA13	SA13C	14.4	17.6	1	5	13	21.0	23.8
SA13A	SA13CA	14.4	15.9	1	5	13	23.3	21.5
SA14	SA14C	15.6	19.1	1	5	14	19.4	25.8
SA14A	SA14CA	15.6	17.2	1	5	14	21.6	23.2
SA15	SA15C	16.7	20.4	1	5	15	18.6	26.9
SA15A	SA15CA	16.7	18.5	1	5	15	20.5	24.4
SA16	SA16C	17.8	21.8	1	5	16	17.4	28.8
SA16A	SA16CA	17.8	19.7	1	5	16	19.2	26.0
SA17	SA17C	18.9	23.1	1	5	17	16.4	30.5
SA17A	SA17CA	18.9	20.9	1	5	17	18.1	27.6
SA18	SA18C	20.0	24.4	1	5	18	15.5	32.2
SA18A	SA18CA	20.0	22.1	1	5	18	17.1	29.2
SA19	SA19C	21.1	25.8	1	5	19	14.7	34.0
SA19A	SA19CA	21.1	23.3	1	5	19	16.2	30.8
SA20	SA20C	22.2	27.1	1	5	20	14.0	35.8
SA20A	SA20CA	22.2	24.5	1	5	20	15.4	32.4
SA22	SA22C	24.4	29.8	1	5	22	12.7	39.4
SA22A	SA22CA	24.4	26.9	1	5	22	14.1	35.5
SA24	SA24C	26.7	32.6	1	5	24	11.6	43.0
SA24A	SA24CA	26.7	29.5	1	5	24	12.9	38.9
SA26	SA26C	28.9	35.3	1	5	26	10.7	46.6
SA26A	SA26CA	28.9	31.9	1	5	26	11.9	42.1
SA28	SA28C	31.1	38.0	1	5	28	10.0	50.0
SA28A	SA28CA	31.1	34.4	1	5	28	11.0	45.4
SA30	SA30C	33.3	40.7	1	5	30	9.35	53.5
SA30A	SA30CA	33.3	36.8	1	5	30	10.3	48.4
SA33	SA33C	36.7	44.9	1	5	33	8.47	59.0
SA33A	SA33CA	36.7	40.6	1	5	33	9.38	53.3

SA36	SA36C	40.0	48.9	1	5	36	7.78	64.3
SA36A	SA36CA	40.0	44.2	1	5	36	8.61	58.1
SA40	SA40C	44.4	54.3	1	5	40	7.00	71.4
SA40A	SA40CA	44.4	49.1	1	5	40	7.75	64.5
SA43	SA43C	47.8	58.4	1	5	43	6.52	76.7
SA43A	SA43CA	47.8	52.8	1	5	43	7.20	69.4
SA45	SA45C	50.0	61.1	1	5	45	6.23	80.3
SA45A	SA45CA	50.0	55.3	1	5	45	6.88	72.7
SA48	SA48C	53.3	65.1	1	5	48	5.85	85.5
SA48A	SA48CA	53.3	58.9	1	5	48	6.46	77.4
SA51	SA51C	56.7	69.3	1	5	51	5.49	91.1
SA51A	SA51CA	56.7	62.7	1	5	51	6.07	82.4
SA54	SA54C	60.0	73.3	1	5	54	5.19	96.3
SA54A	SA54CA	60.0	66.3	1	5	54	5.74	87.1
SA58	SA58C	64.4	78.7	1	5	58	4.85	103
SA58A	SA58CA	64.4	71.2	1	5	58	5.34	93.6
SA60	SA60C	66.7	81.5	1	5	60	4.67	107
SA60A	SA60CA	66.7	73.7	1	5	60	5.17	96.8
SA64	SA64C	71.1	86.9	1	5	64	4.39	114
SA64A	SA64CA	71.1	78.6	1	5	64	4.85	103
SA70	SA70C	77.8	95.1	1	5	70	4.00	125
SA70A	SA70CA	77.8	86.0	1	5	70	4.42	113
SA75	SA75C	83.3	102	1	5	75	3.73	134
SA75A	SA75CA	83.3	92.1	1	5	75	4.13	121
SA78	SA78C	86.7	106	1	5	78	3.60	139
SA78A	SA78CA	86.7	95.8	1	5	78	3.97	126
SA80	SA80C	89.0	109	1	5	80	3.49	143
SA80A	SA80CA	88.8	97.6	1	5	80	3.86	130
SA85	SA85C	94.4	115	1	5	85	3.31	151
SA85A	SA85CA	94.4	104	1	5	85	3.65	137
SA90	SA90C	100	122	1	5	90	3.13	160
SA90A	SA90CA	100	111	1	5	90	3.42	146
SA100	SA100C	111	136	1	5	100	2.79	179
SA100A	SA100CA	111	123	1	5	100	3.09	162
SA110	SA110C	122	149	1	5	110	2.55	196
SA110A	SA110CA	122	135	1	5	110	2.82	177
SA120	SA120C	133	163	1	5	120	2.34	214
SA120A	SA120CA	133	147	1	5	120	2.59	193
SA130	SA130C	144	176	1	5	130	2.16	231
SA130A	SA130CA	144	159	1	5	130	2.39	209
SA140	SA140C	156	190	1	5	140	2.00	251
SA140A	SA140CA	155	171	1	5	140	2.20	227
SA150	SA150C	167	204	1	5	150	1.87	268
SA150A	SA150CA	167	185	1	5	150	2.06	243
SA160	SA160C	178	218	1	5	160	1.74	287
SA160A	SA160CA	178	197	1	5	160	1.93	259
SA170	SA170C	189	231	1	5	170	1.64	304
SA170A	SA170CA	189	209	1	5	170	1.82	275
SA180	SA180C	200	245	1	5	180	1.55	322
SA180A	SA180CA	200	220	1	5	180	1.71	292
SA190	SA190C	211	258	1	5	190	1.47	340
SA190A	SA190CA	211	232	1	5	190	1.62	308

Note:

1. Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device.
2. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having VR of 10 volts and under, the IR limit is double .