LITE-ON SEMICONDUCTOR

SA SERIES

GLASS PASSIVATED UNIDIRECTIONAL AND BIDIRECTIONAL TRANSIENT VOLTAGE SUPPRESSORS

REVERSE VOLTAGE - **5.0** to **170** Volts
POWER DISSIPATION - **500** WATTS

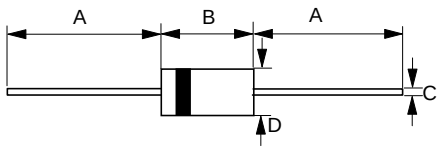
FEATURES

- Glass passivated chip
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- The plastic material has U/L recognition 94V-O
- Fast response time

MECHANICAL DATA

- Case : Molded Plastic
- Marking : Unidirectional - type number and cathode band Bidirectional - type number only
- Weight : 0.34 grams

DO-15



	DO-15	
Dim.	Min.	Max.
A	25.4	-
B	5.80	7.60
C	0.71 ∅	0.86 ∅
D	2.60 ∅	3.60 ∅
All Dimensions in millimeter		

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOLS	VALUE	UNIT
PEAK POWER DISSIPATION AT T_A = 25˚C, TP = 1ms (Note 1)	P_{PK}	Minimum 500	WATTS
Peak Forward Surge Current 8.3ms single half sine-wave super imposed on rated load (Note 2) (JEDEC METHOD)	I_{FSM}	70	AMPS.
Steady State Power Dissipation at T_L =75℃ lead lenghts 0.375" (9.5mm) , see fig. 4	$P_{M(AV)}$	1.0	WATTS
MaximumInstantaneous forward voltage at 35A for unidirectional devices only (Note 2)	V_F	3.5	Volts
Operating Temperature Range	T_J	-55 to +150	˚C
Storage Temperature Range	T_{STG}	-55 to +175	˚C

NOTES : 1. Non-repetitive current pulse, per fig. 5 and derated above T_A= 25˚C per fig. 1
2. 8.3ms single half sine-wave duty cycle= 4 pulses per minutes maximum (uni-directional units only).

REV. 2, 01-Dec-2000, KDID01

FIG.1 - PULSE DERATING CURVE

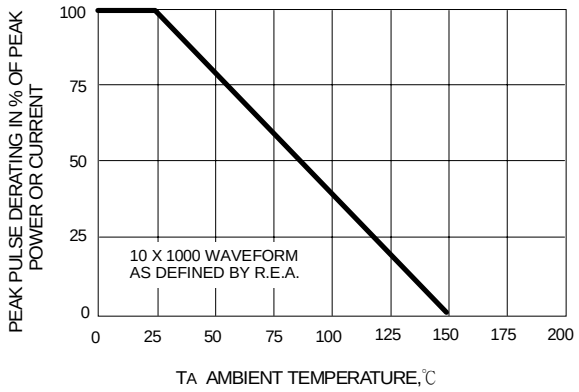


FIG.2 - TYPICAL JUNCTION CAPACITANCE

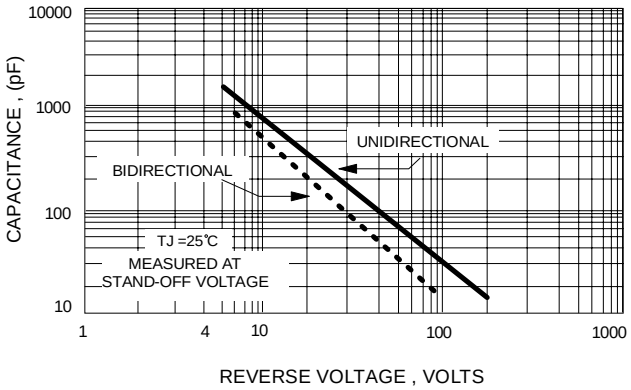


FIG.3 - PULSE RATING CURVE

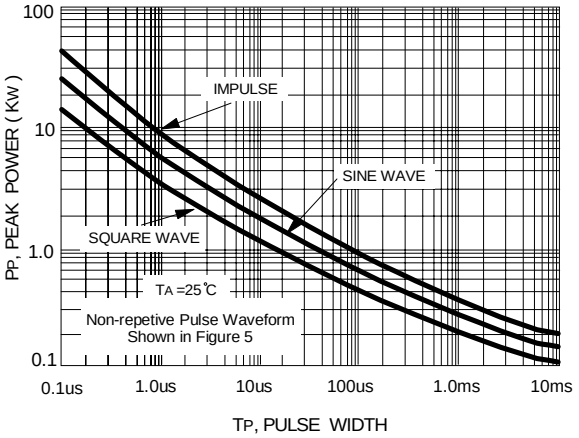


FIG.4 - STEADY STATE POWER DERATING CURVE

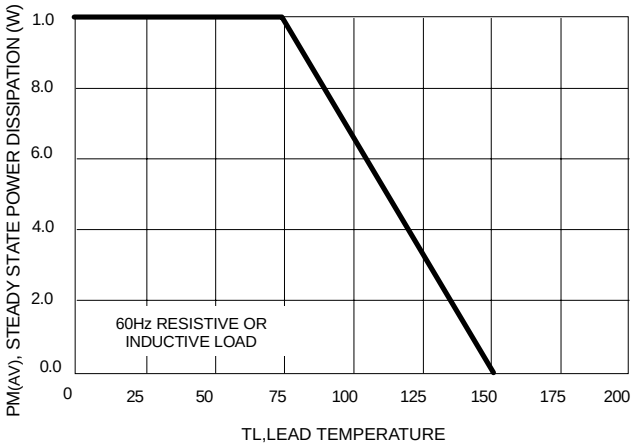
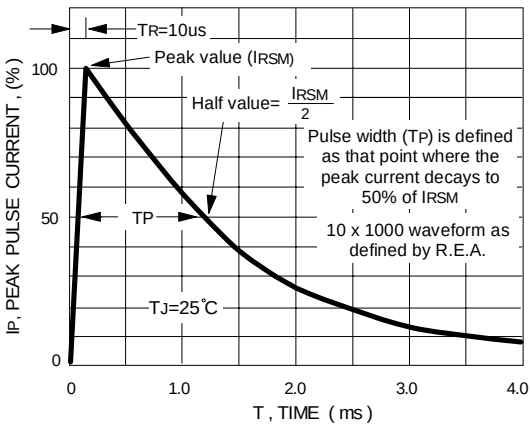


FIG.5 - PULSE WAVEFORM



LITE-ON SEMICONDUCTOR

Part Number (Suffix C= Bidirectional)	Reverse Standoff Voltage	Breakdown Voltage BV Volts @It			Max. Clamping Voltage @Ipp	Max. Peak Pulse Current	Max. Reverse Leakage @VR	Max. Voltage Temp. Variation of Bv
	V_R (V)	Min (V)	Max (V)	It (mA)	Vc (V)	Ipp (A)	I_R (uA)	mV/℃
SA5.0	5.0	6.40	7.30	10	9.6	52.0	600	5
SA5.0A	5.0	6.40	7.00	10	9.2	54.3	600	5
SA6.0	6.0	6.67	8.15	10	11.4	43.9	600	5
SA6.0A	6.0	6.67	7.37	10	10.3	48.5	600	5
SA6.5	6.5	7.22	8.82	10	12.3	40.7	400	5
SA6.5A	6.5	7.22	7.98	10	11.2	44.7	400	5
SA7.0	7.0	7.78	9.51	10	13.3	37.8	150	6
SA7.0A	7.0	7.78	8.60	10	12.0	41.7	150	6
SA7.5	7.5	8.33	10.20	1	14.3	35.0	50	7
SA7.5A	7.5	8.33	9.21	1	12.9	38.8	50	7
SA8.0	8.0	8.89	10.90	1	15.0	33.3	25	7
SA8.0A	8.0	8.89	9.83	1	13.6	36.7	25	7
SA8.5	8.5	9.44	11.50	1	15.9	31.4	10	8
SA8.5A	8.5	9.44	10.40	1	14.4	34.7	10	8
SA9.0	9.0	10.0	12.2	1	16.9	29.5	5	9
SA9.0A	9.0	10.0	11.1	1	15.4	32.5	5	9
SA10	10	11.1	13.6	1	18.8	26.6	3	10
SA10A	10	11.1	12.3	1	17.0	29.4	3	10
SA11	11	12.2	14.9	1	20.1	24.9	3	11
SA11A	11	12.2	13.5	1	18.2	27.4	3	11
SA12	12	13.3	16.3	1	22.0	22.7	3	12
SA12A	12	13.3	14.7	1	19.9	25.1	3	12
SA13	13	14.4	17.6	1	23.8	21.0	3	13
SA13A	13	14.4	15.9	1	21.5	23.2	3	13
SA14	14	15.6	19.1	1	25.8	19.4	3	14
SA14A	14	15.6	17.2	1	23.2	21.5	3	14
SA15	15	16.7	20.4	1	26.9	18.8	3	16
SA15A	15	16.7	18.5	1	24.4	20.6	3	16
SA16	16	17.8	21.8	1	28.8	17.6	3	19
SA16A	16	17.8	19.7	1	26.0	19.2	3	17
SA17	17	18.9	23.1	1	30.5	16.4	3	20
SA17A	17	18.9	20.9	1	27.6	18.1	3	19
SA18	18	20.0	24.4	1	32.2	15.5	3	21
SA18A	18	20.0	22.1	1	29.2	17.2	3	20
SA20	20	22.2	27.1	1	35.8	13.9	3	25
SA20A	20	22.2	24.5	1	32.4	15.4	3	23
SA22	22	24.4	29.8	1	39.4	12.7	3	28
SA22A	22	24.4	26.9	1	35.5	14.1	3	25
SA24	24	26.7	32.6	1	43.0	11.6	3	31
SA24A	24	26.7	29.5	1	38.9	12.8	3	28
SA26	26	28.9	35.3	1	46.6	10.7	3	31
SA26A	26	28.9	31.9	1	42.1	11.9	3	30
SA28	28	31.1	38.0	1	50.0	9.9	3	35
SA28A	28	31.1	34.4	1	45.4	11.0	3	31
SA30	30	33.3	40.7	1	53.5	9.3	3	39
SA30A	30	33.3	36.8	1	48.4	10.3	3	36
SA33	33	36.7	44.9	1	59.0	8.5	3	42
SA33A	33	36.7	40.6	1	53.3	9.4	3	39

Part Number (Suffix C= Bidirectional)	Reverse Standoff Voltage	Breakdown Voltage BV Volts @It			Max. Clamping Voltage @Ipp	Max. Peak Pulse Current	Max. Reverse Leakage @VR	Max. Voltage Temp. Variation of Bv
	V_R(V)	Min(V)	Max(V)	It(mA)	Vc(V)	Ipp(A)	I_R(uA)	mV/℃
SA36	36	40.0	48.9	1	64.3	7.8	3	46
SA36A	36	40.0	44.2	1	58.1	8.6	3	41
SA40	40	44.4	54.3	1	71.4	7.0	3	51
SA40A	40	44.4	49.1	1	64.5	7.8	3	46
SA43	43	47.8	58.4	1	76.7	6.5	3	55
SA43A	43	47.8	52.8	1	69.4	7.2	3	50
SA45	45	50.0	61.1	1	80.3	6.2	3	58
SA45A	45	50.0	55.3	1	72.7	6.9	3	52
SA48	48	53.3	65.1	1	85.5	5.8	3	63
SA48A	48	53.3	58.9	1	77.4	6.5	3	56
SA51	51	56.7	69.3	1	91.1	5.5	3	66
SA51A	51	56.7	62.7	1	82.4	6.1	3	61
SA54	54	60.0	73.3	1	96.3	5.2	3	71
SA54A	54	60.0	66.3	1	87.1	5.7	3	65
SA58	58	64.4	78.7	1	103.0	4.9	3	78
SA58A	58	64.4	71.2	1	93.6	5.3	3	70
SA60	60	66.7	81.5	1	107.0	4.7	3	80
SA60A	60	66.7	73.7	1	96.8	5.2	3	71
SA64	64	71.1	86.9	1	114.0	4.4	3	86
SA64A	64	71.1	78.6	1	103.0	4.9	3	76
SA70	70	77.8	95.1	1	125.0	4.0	3	94
SA70A	70	77.8	86.0	1	113.0	4.4	3	85
SA75	75	83.3	102.0	1	134.0	3.7	3	101
SA75A	75	83.3	92.1	1	121.0	4.1	3	91
SA78	78	86.7	106.0	1	139.0	3.6	3	105
SA78A	78	86.7	95.8	1	126.0	4.0	3	95
SA85	85	94.4	115.0	1	151.0	3.3	3	114
SA85A	85	94.4	104.0	1	137.0	3.6	3	103
SA90	90	100	122.0	1	160.0	3.1	3	121
SA90A	90	100	111.0	1	146.0	3.4	3	110
SA100	100	111	136.0	1	179.0	2.8	3	135
SA100A	100	111	123.0	1	162.0	3.1	3	123
SA110	110	122	149.0	1	196.0	2.6	3	148
SA110A	110	122	135.0	1	177.0	2.8	3	133
SA120	120	133	163.0	1	214.0	2.3	3	162
SA120A	120	133	147.0	1	193.0	2.0	3	146
SA130	130	144	176.0	1	231.0	2.2	3	175
SA130A	130	144	159.0	1	209.0	2.4	3	158
SA150	150	167	204.0	1	268.0	1.9	3	203
SA150A	150	167	185.0	1	243.0	2.1	3	184
SA160	160	178	218.0	1	287.0	1.7	3	217
SA160A	160	178	197.0	1	259.0	1.9	3	196
SA170	170	189	231.0	1	304.0	1.6	3	230
SA170A	170	189	209.0	1	275.0	1.8	3	208

Suffix'C' denotes Bi-directional device. Suffix'A' denotes 5% tolerance device,no Suffix denotes 10% tolerance device .

For Bi-directional devices having VR of 10 volts and under,the IR limit is doubled .

For Uni-directional devices VF max=3.5V at IF=35A,0.5 sine wave of 8.33 msec. pulse width .