

EDAL INDUSTRIES, INC.

51 COMMERCE STREET * EAST HAVEN, CONNECTICUT 06512 * TELEPHONE (203)-467-2591 * FAX (203)-469-5928

SA5.0-SA170A TRANSIENT VOLTAGE SUPPRESSOR

VBR: 6.8-200 V
500 Watt Peak Power
3.0 Watt Steady State

FEATURES:

- * 500W surge capability at 1 ms
- * Excellent clamping capability
- * Low zener impedance
- * Fast response time: typically less than 1.0 ps. from 0 volts to BV min.
- * Low Leakage < 1 uA above 10V

MECHANICAL DATA

- * Case: Molded Plastic
- * Epoxy: UL94V-O rate flame retardant
- * Lead: Axial lead solderable per MIL-STD-202, method 208 guaranteed
- * Polarity: Color band denotes cathode end except Bipolar
- * Mounting position: Any
- * Weight: 0.34 grams

DEVICES FOR BIPOLAR APPLICATIONS

For Bi-directional use C or CA Suffix for types SA5.0 through SA170
Electrical characteristics apply in both directions

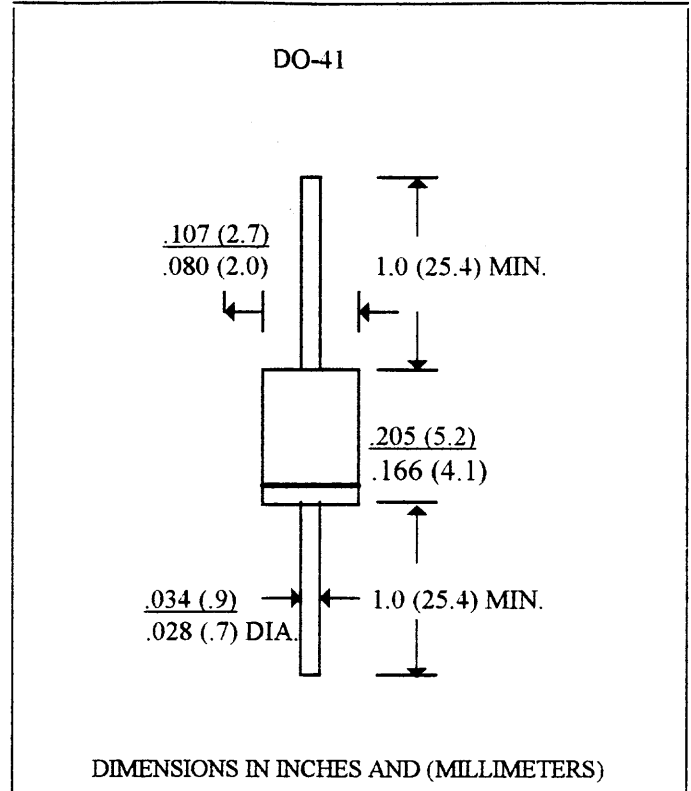
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Power Dissipation at TA=25°C, TP=1ms (note 1)	Ppk	Minimum 500	Watts
Steady State Power Dissipation at TL=75°C Lead Lengths .375", (9.5 mm) (Note 2)	PD	3.0	Watts
Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 3)	IFSM	70.0	Amps
Operating and Storage Temperature Range	Tj, Tstg	-65 to +175	°C

Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above TA=25°C per Fig. 2.
2. Mounted on Copper Leaf area of 1.57 in (40 mm).
3. 8.3 ms single half sine-wave, duty cycle=4 pulses per Minutes maximum.



B162

DIODES * BRIDGES * POWER RECTIFIERS * HIGH VOLTAGE ASSEMBLIES *
VARISTORS * MOV * TVS * SPECIAL DESIGNS

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ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

TYPE	BREAKDOWN VOLTAGE			WORKING PEAK REVERSE VOLTAGE VRWM (V)	MAXIMUM REVERSE LEAKAGE @ VRWM IR (uA)	MAXIMUM REVERSE CURRENT IRSM (A)	MAXIMUM CLAMPING VOLT @ IRSM (V)	MAXIMUM VOLTAGE TEMPERATURE VARIATION OF VBR MV/°C
	VBR (V)	(I)	@ It (MA)					
Unidirectional	MIN	MAX						
SA 5.0	6.4	7.3	10	5	600	52	9.6	5
SA 5.0A	6.4	7	10	5	600	54.3	9.2	5
SA 6.0	6.67	8.15	10	6	600	43.9	11.4	5
SA 6.0A	6.67	7.37	10	6	600	48.5	10.3	5
SA 6.5	7.22	8.82	10	6.5	400	40.7	12.3	5
SA 6.5A	7.22	7.98	10	6.5	400	44.7	11.2	5
SA 7.0	7.78	9.51	10	7	150	37.8	13.3	6
SA 7.0A	7.78	8.6	10	7	150	41.7	12	6
SA 7.5	8.33	10.2	1	7.5	50	35	14.3	7
SA 7.5A	8.33	9.21	1	7.5	50	38.8	12.9	7
SA 8.0	8.89	10.9	1	8	25	33.3	15	7
SA 8.0A	8.89	9.9	1	8	25	36.7	13.6	7
SA 8.5	9.44	11.5	1	8.5	5	31.4	15.9	8
SA 8.5A	9.44	10.4	1	8.5	5	34.7	14.4	8
SA 9.0	10	12.2	1	9	1	29.5	16.9	9
SA 9.0A	10	11.1	1	9	1	32.5	15.4	9
SA 10	11.1	13.6	1	10	1	26.6	18.8	10
SA 10A	11.1	12.3	1	10	1	29.4	17	10
SA 11	12.2	14.9	1	11	1	24.9	20.1	11
SA 11A	12.2	13.5	1	11	1	27.4	18.2	11
SA 12	13.3	16.3	1	12	1	22.7	22	12
SA 12A	13.3	14.7	1	12	1	25.1	19.9	12
SA 13	14.4	17.6	1	13	1	21	23.8	13
SA 13A	14.4	15.9	1	13	1	23.2	21.5	13
SA 14	15.6	19.1	1	14	1	19.4	25.8	14
SA 14A	15.6	17.2	1	14	1	21.5	23.2	14
SA 15	16.7	20.4	1	15	1	18.6	26.9	16
SA 15A	16.7	18.5	1	15	1	20.5	24.4	16
SA 16	17.8	21.8	1	16	1	17.4	28.8	19
SA 16A	17.8	19.7	1	16	1	19.2	26	17
SA 17	18.9	23.1	1	17	1	16.4	30.5	20
SA 17A	18.9	20.9	1	17	1	18.1	27.6	19
SA 18	20	24.4	1	18	1	15.5	32.2	21
SA 18A	20	22.1	1	18	1	17.1	29.2	20
SA 20	22.2	27.1	1	20	1	13.9	35.8	25
SA 20A	22.2	24.5	1	20	1	15.4	32.4	23
SA 22	24.4	29.8	1	22	1	12.7	39.4	28
SA 22A	24.4	26.9	1	22	1	14.1	35.5	25
SA 24	26.7	32.6	1	24	1	11.6	43	31
SA 24A	26.7	29.5	1	24	1	12.8	38.9	28
SA 26	28.9	35.3	1	26	1	10.7	46.6	31
SA 26A	28.9	31.9	1	26	1	11.9	42.1	30
SA 28	31.1	38	1	28	1	9.9	50	35
SA 28A	31.1	34.4	1	28	1	11	45.4	31
SA 30	33.3	40.7	1	30	1	9.3	53.5	39
SA 30A	33.3	36.8	1	30	1	10.3	48.4	36
SA 33	36.7	44.9	1	33	1	8.5	59	42
SA 33A	36.7	40.6	1	33	1	9.4	53.3	39
SA 36	40	48.9	1	36	1	7.8	64.3	46
SA 36A	40	44.2	1	36	1	8.6	58.1	41

B162-1

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	VBR (V)	I @ It (MA)						
Unidirectional	MIN	MAX						
SA 43	47.8	58.4	1	43	1	6.5	76.7	55
SA 43A	47.8	52.8	1	43	1	7.2	69.4	50
SA 45	50	61.1	1	45	1	6.2	80.3	58
SA 45A	50	55.3	1	45	1	6.9	72.7	52
SA 48	53.3	65.1	1	48	1	5.8	85.5	63
SA 48A	53.3	58.9	1	48	1	6.5	77.0	56
SA 51	56.7	69.3	1	51	1	5.5	91.1	66
SA 51A	56.7	62.7	1	51	1	6.1	82.4	61
SA 54	60	73.3	1	54	1	5.2	96.3	71
SA 54A	60	66.3	1	54	1	5.7	87.1	65
SA 58	64.4	78.7	1	58	1	4.9	103	78
SA 58A	64.4	71.2	1	58	1	5.3	93.6	70
SA 60	66.7	81.5	1	60	1	4.7	107	80
SA 60A	66.7	73.7	1	60	1	5.2	96.8	71
SA 64	71.1	86.9	1	64	1	4.4	114	86
SA 64A	71.1	78.6	1	64	1	4.9	103	76
SA 70	77.8	95.1	1	70	1	4	125	94
SA 70A	77.8	86	1	70	1	4.4	113	85
SA 75	83.3	102	1	75	1	3.7	134	101
SA 75A	83.3	92.1	1	75	1	4.1	121	91
SA 78	86.7	106	1	78	1	3.6	139	105
SA 78A	86.7	95.8	1	78	1	4	126	95
SA 85	94.4	115	1	85	1	3.3	151	114
SA 85A	94.4	104	1	85	1	3.6	137	103
SA 90	100	122	1	90	1	3.1	160	121
SA 90A	100	111	1	90	1	3.4	146	110
SA 100	111	136	1	100	1	2.8	179	135
SA 100A	111	123	1	100	1	3.1	162	123
SA 110	122	149	1	110	1	2.6	196	148
SA 110A	122	135	1	110	1	2.8	177	133
SA 120	133	163	1	120	1	2.3	214	162
SA 120A	133	147	1	120	1	2.5	193	146
SA 130	144	176	1	130	1	2.2	231	175
SA 130A	144	159	1	130	1	2.4	209	158
SA 150	167	204	1	150	1	1.9	268	203
SA 150A	167	185	1	150	1	2.1	243	184
SA 160	178	218	1	160	1	1.7	287	217
SA 160A	178	197	1	160	1	1.9	259	196
SA 170	189	231	1	170	1	1.6	304	230
SA 170A	189	209	1	170	1	1.8	275	208

NOTES:

1. VBR measured after IT applied for 300 µs, IT=Square Wave Pulse or equivalent.
2. Surge Current Waveform per Figure 3 and Derated per Figure 2.
3. VF=3.5 V at IF=35A (SA 5.0 thru SA 120A) on 1/2 Square of Equivalent Sine Wave.
PW=8.3 ms, Duty Cycle=4 Pulses per Minute Maximum.

B162-2

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