



Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, CA 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

DESIGNER'S DATA SHEET

Part Number / Ordering Information ^{1/}

STB1000 A 9.1 TX

Screening^{2/}
 — = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

Package:
 — = Axial Leaded (—)
 SMS = Surface Mount Square Tab (SMS)

Voltage: example
 9.1 = 9.1 V

Tolerance A = $\pm 10\%$
 B = $\pm 5\%$

STB1000 Series

1000 W
Bidirectional
Transient Voltage Suppressor
7.5 – 510 VOLTS

FEATURES:

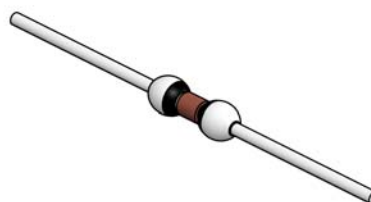
- Hermetically Sealed in Glass
- High Peak Transient Power 1000 W
- Can Be Used as a 5 W Zener
- Available in Axial Leaded and Surface Mount Square Tab Packages
- TX, TXV, and Space Level Screening Available^{2/}
- Higher Voltages Available (consult factory)

Maximum Ratings	Symbol	Value	Unit
Peak Pulse Power Dissipation 100 μ s Square Wave (see Fig 2)	P_{PPM}	1000	W
Peak Pulse Power Dissipation^{3/} 10/1000 μ s waveform (see Fig 1 & 2)	P_{PPM}	500	W
Steady State Power Dissipation Axial Lead : T _L = 25°C, L = 3/8" SMS: T _E = 100°C	P_D	6.0 9.0	W
Operating and Storage Temp.	T_{op} & T_{stg}	-65 to +175	°C
Thermal Resistance Junction to Lead, L = 3/8" Junction to End Tab	R_{θJL} R_{θJE}	25 8.3	°C/W

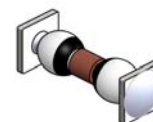
NOTES:

- 1/ For ordering information, price, and availability – contact factory.
- 2/ Screening based on MIL-PRF-19500. Screening flows available on request. X-Ray shall be performed in lieu of Precap Inspection – Consult factory.
- 3/ Exponential waveform i.a.w. IEC60-1 10/1000 μ s pulse
- 4/ Breakdown voltages are measured with an automated test set using a 35 msec test time. Longer or shorter test time will have a corresponding effect on the measured value due to heating effects.

Axial Leaded (—)



Surface Mount Square Tab (SMS)



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Nominal Breakdown Voltage			Test Current	Maximum Reverse Current @ Standoff Voltage		Typical Temperature Coefficient	Maximum Clamping Voltage	
$V_{BR} @ I_T^{4I}$			I_T	$I_R @ V_R$	Standoff Voltage	$TC @ I_T$	$V_{CL} @ I_{CL}$	I_{CL}
V (Nom)	A	B	mA	μA	V	% / °C	V	Amps
7.5	±10%	±5%	175	3000	6.2	0.07	11.3	44.2
8.2			150	2400	6.8	0.08	12.3	40.6
9.1			150	100	7.5	0.08	13.3	37.6
10			125	40	8.2	0.09	14.8	34.0
11			125	30	9.1	0.10	15.7	31.8
12	±10%	±5%	100	20	10	0.10	17.0	29.4
13			100	10	11	0.10	18.9	26.4
15			75	10	12	0.10	20.9	23.9
16			75	10	13	0.11	22.9	21.8
18			65	10	15	0.11	25.6	19.5
20	±10%	±5%	65	10	16	0.11	28.4	17.6
22			50	10	18	0.11	31.0	16.1
24			50	10	20	0.11	33.8	14.8
27			50	10	22	0.11	38.1	13.1
30			40	10	24	0.11	42.2	11.8
33	±10%	±5%	40	10	27	0.11	46.2	10.8
36			30	10	30	0.11	50.1	10.0
39			30	10	33	0.11	54.1	9.2
43			25	10	36	0.12	60.7	8.2
47			25	10	39	0.12	65.5	7.6
51	±10%	±5%	25	10	43	0.12	70.8	7.0
56			20	10	47	0.12	78.6	6.3
62			20	10	51	0.13	86.5	5.8
68			20	10	56	0.13	94.4	5.3
75			20	10	62	0.13	103.5	4.8
82	±10%	±5%	15	10	68	0.13	114	4.3
91			15	10	75	0.13	126	3.9
100			12	10	82	0.13	139	3.6
110			12	10	91	0.13	152	3.3
120			10	10	100	0.13	167	3.0
130	±10%	±5%	10	10	110	0.13	185	2.7
150			8.0	10	130	0.13	204	2.4
160			8.0	10	150	0.13	224	2.2
180			5.0	10	160	0.13	249	2.0
200			5.0	10	170	0.13	276	1.8
220	±10%	±5%	5.0	10	180	0.13	305	1.6
240			5.0	10	200	0.13	336	1.5
270			5.0	10	220	0.13	380	1.3
300			5.0	10	240	0.13	419	1.2
330			5.0	10	270	0.13	459	1.1
360	±10%	±5%	5.0	10	300	0.13	498	1.00
390			5.0	10	330	0.13	537	0.93
430			5.0	10	360	0.13	603	0.83
470			5.0	10	390	0.13	655	0.76
510			5.0	10	430	0.13	707	0.71

Figure 1 – Exponential 10 / 1000 uS Waveform

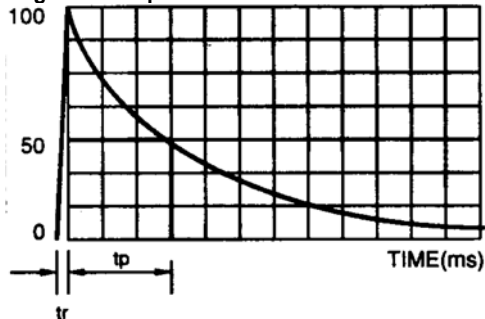
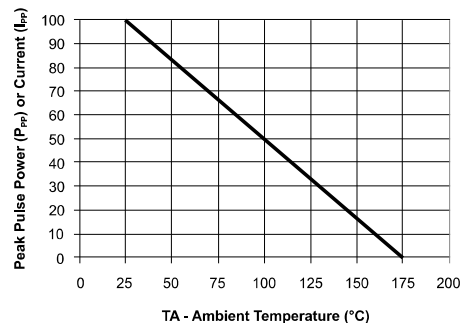


Figure 2 - Pulse Derating Curve



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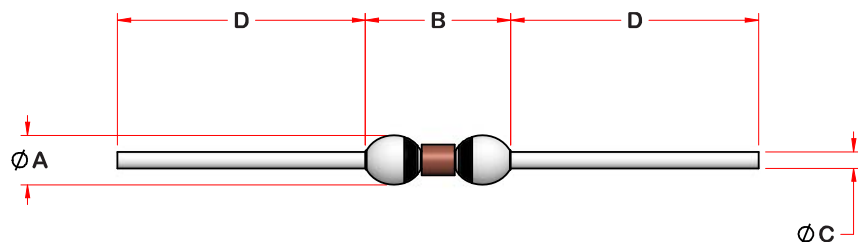
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STB1000 Series

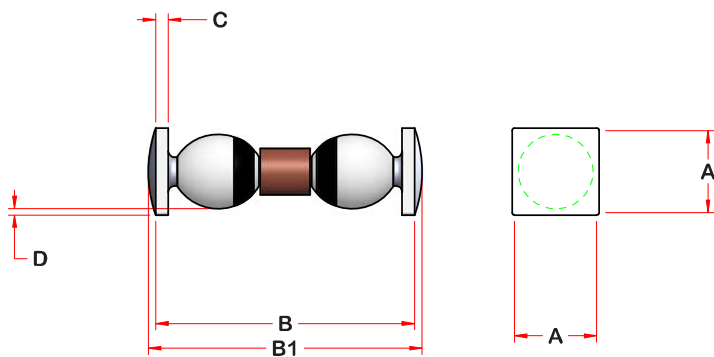
Case Outline: Axial Leaded ()



Dimensions (in.)

DIM	MIN	MAX
A	--	.165
B	--	.450
C	.047	.053
D	1.00	--

Case Outline: Surface Mount Square Tab (SMS)



Dimensions (in.)

DIM	MIN	MAX
A	.155	.185
B	.500	.530
B1	--	.560
C	.023	.027
D	.001	--

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