



# Solid State Devices, Inc.

14701 Firestone Blvd \* La Mirada, Ca 90638

Phone: (562) 404-4474 \* Fax: (562) 404-1773

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## DESIGNER'S DATA SHEET

### FEATURES:

- Hermetically Sealed in Glass
- High Peak Transient Power 1000 W
- Can Be Used as a 5 W Zener
- Available in Axial, Surface Mount, and Ministud Configurations  
TX, TXV, and Space Level Screening Available<sup>2/</sup>
- Higher Voltages Available ( consult factory)

### Part Number / Ordering Information <sup>1/</sup>

ST1000 **A** **9.6** **SMS** **TX**

Screening <sup>2/</sup>      = Not Screened  
 TX = TX Level  
 TXV = TXV Level  
 S = S Level

Package: <sup>3/</sup>      = Axial  
 SMS = Square Tab  
 V = Isolated Ministud  
 C = Ministud

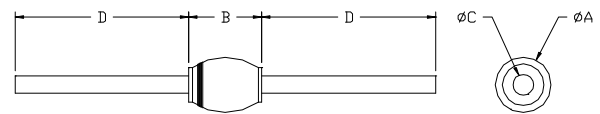
Voltage: 9.6 = 9.6V

Tolerance A = ± 10%  
 B = ± 5 %

## ST1000 Series

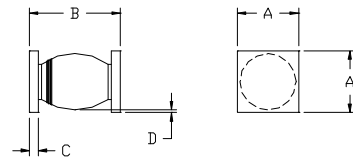
## 1000 W Transient Voltage Suppressor 7.5 – 120 VOLTS

Axial



DIM	MIN	MAX
A	—	0.158"
B	—	0.185"
C	0.047"	0.053"
D	1.0"	—

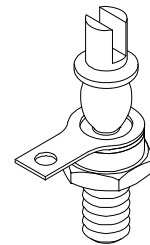
SMS



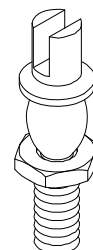
DIM	MIN	MAX
A	0.155"	0.160"
B	0.200"	0.225"
C	0.018"	0.027"
D	0.001"	—

Maximum Ratings	Symbol	Value	Units
Peak pulse power dissipation with a 10/1000 $\mu$ s waveform	$P_{PPM}$	1000	W
Steady State Power Dissipation Axial Lead : $T_L=25^\circ\text{C}$ , $L=3/8"$ SMS & Ministud: $T_C$ or $T_E = 75^\circ\text{C}$	$P_D$	5.0	W
Operating and Storage Temp.	$T_{op}$ & $T_{stg}$	-65 to +175	$^\circ\text{C}$
Maximum Forward Voltage Drop $I_F = 1.0$ Apk, $T_A = 25^\circ\text{C}$ , pulsed	$V_F$	1.2	V
Thermal Resistance, Junction to Lead $L=3/8"$	$R_{\theta JL}$	25	$^\circ\text{C/W}$
Thermal Resistance, Junction to End Cap Junction to Case	$R_{\theta JE}$ $R_{\theta JC}$	8	$^\circ\text{C/W}$

Isolated Ministud



Ministud



NOTE: All specifications are subject to change without notification.  
 SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: T00033A

DOC



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**ST1000 Series**

Nominal Zener Voltage			Zener Test Current	Maximum Reverse Current @ Standoff Voltage		Typical Temperature Coefficient	Maximum Clamping Voltage 10 / 1000 $\mu$ s waveform	
$V_Z @ I_{ZT}^{4/}$			$I_{ZT}$	$I_R @ V_R$	Standoff Voltage	TC @ $I_{ZT}$	Vcl @ ICL	ICL
Nom	A	B	mA	$\mu$ A	V	% / $^{\circ}$ C	V	Amps
7.5	±10%	±5%	175	3000	6.2	0.07	11.3	88.5
8.2			150	2400	6.8	0.08	12.3	81.3
9.1			150	100	7.5	0.08	13.3	75.2
10			125	40	8.2	0.09	14.8	67.6
11			125	30	9.1	0.10	15.7	63.7
12	±10%	±5%	100	20	10	0.10	17.0	58.8
13			100	10	11	0.10	18.9	52.9
15			75	10	12	0.10	20.9	47.8
16			75	10	13	0.11	22.9	43.7
18			65	10	15	0.11	25.6	39.1
20	±10%	±5%	65	10	16	0.11	28.4	35.2
22			50	10	18	0.11	31.0	32.3
24			50	10	20	0.11	33.8	29.6
27			50	10	22	0.11	38.1	26.2
30			40	10	24	0.11	42.2	23.7
33	±10%	±5%	40	10	27	0.11	46.2	21.6
36			30	10	30	0.11	50.1	20.0
39			30	10	33	0.11	54.1	18.5
43			35	10	36	0.12	60.7	16.5
47			25	10	39	0.12	65.5	15.3
51	±10%	±5%	25	10	43	0.12	70.8	14.1
56			20	10	47	0.12	78.6	12.7
62			20	10	51	0.13	86.5	11.6
68			20	10	56	0.13	94.4	10.6
75			20	10	62	0.13	103.5	9.7
82	±10%	±5%	15	10	68	0.13	114	8.8
91			15	10	75	0.13	126	7.9
100			12	10	82	0.13	139	7.2
110			12	10	91	0.13	152	6.6
120			10	10	100	0.13	167	6.0

**NOTES:**

- 1 Consult factory for parts ordering information
- 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 Consult factory for package outline
- 4 Pulsed @ 300 $\mu$ s nominal, other pulse widths will provide different results due to self heating