Solid State Devices, Inc.

14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
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**ST500A7.5
thru
ST500A270**

DESIGNER'S DATA SHEET

FEATURES:

- **Hermetically Sealed in Glass**
- **High Peak Transient Power 500 W**
- **Can Be Used as a 5 W Zener**
- **Available in Axial, Surface Mount, and Ministud Configurations**
  TX, TXV, and Space Level Screening Available[2]
- **Higher Voltages Available**

Part Number / Ordering Information [1]

ST500   A   9.6   SMS   TX

Screening [2] __ = Not Screened
TX = TX Level
TXV = TXV Level
S = S Level

Package: [3] = Axial
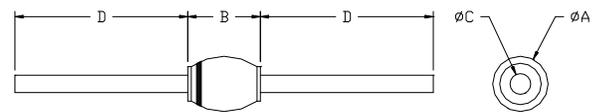SMS = Square Tab
V = Isolated Ministud
C = Ministud

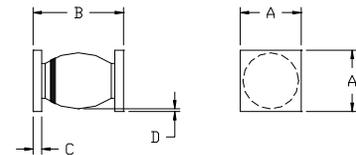Voltage: 9.6 = 9.6V

Tolerance   A = ± 10%
B = ± 5 %

500 W Transient Voltage Suppressor 7.5 – 510 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"	—

Isolated Ministud

Ministud

Maximum Ratings	Symbol	Value	Units
Peak pulse power dissipation with a 10/1000 μs waveform	P_{PPM}	500	W
Steady State Power Dissipation Axial Lead : T_L=25°C, L=3/8" SMS & Ministud: T_C or T_E = 75 °C	P_D	5.0	W
Operating and Storage Temp.	T_{op} & T_{stg}	-65 to +175	°C
Maximum Forward Voltage Drop I_F = 1.0 Apk, T_A = 25 °C, pulsed	V_F	1.2	V
Thermal Resistance, Junction to Lead L=3/8"	$P_{\theta JL}$	25	°C/W
Thermal Resistance, Junction to End Cap Junction to Case	$R_{\theta JE}$ $R_{\theta JC}$	8	°C/W
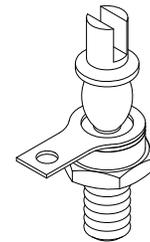
DATA SHEET #: T00023D   **DOC**

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Electrical Characteristics @ 25 ⁰C

Nominal Zener Voltage			Zener Test Current	Typical Impedance 10% AC modulation	Maximum Reverse Current @ Standoff Voltage		Typical Temperature Coefficient	Maximum Clamping Voltage 10 / 1000 µs waveform	
V_Z @ I_{ZT} [4]			I_{ZT}	Z_Z @ I_{ZT}	I_R @ V_R	Standoff Voltage	TC @ I_{ZT}	Vcl @ ICL	ICL
Nom	A	B	mA	Ohms	µA	V	% / °C	V	Amps
7.5			175	0.7	3000	6.2	0.07	11.3	44.2
8.2			150	0.8	2400	6.8	0.08	12.3	40.6
9.1	±10%	±5%	150	0.9	100	7.5	0.08	13.3	37.6
10			125	1.0	40	8.2	0.09	14.8	34.0
11			125	1.1	30	9.1	0.10	15.7	31.8
12			100	1.1	20	10	0.10	17.0	29.4
13			100	1.2	10	11	0.10	18.9	26.4
15	±10%	±5%	75	1.2	10	12	0.10	20.9	23.9
16			75	1.3	10	13	0.11	22.9	21.8
18			65	1.3	10	15	0.11	25.6	19.5
20			65	1.5	10	16	0.11	28.4	17.6
22			50	1.6	10	18	0.11	31.0	16.1
24	±10%	±5%	50	1.8	10	20	0.11	33.8	14.8
27			50	2.5	10	22	0.11	38.1	13.1
30			40	4.0	10	24	0.11	42.2	11.8
33			40	5.0	10	27	0.11	46.2	10.8
36			30	6.0	10	30	0.11	50.1	10.0
39	±10%	±5%	30	7.0	10	33	0.11	54.1	9.2
43			35	10	10	36	0.12	60.7	8.2
47			25	12	10	39	0.12	65.5	7.6
51			25	14	10	43	0.12	70.8	7.0
56			20	18	10	47	0.12	78.6	6.3
62	±10%	±5%	20	20	10	51	0.13	86.5	5.8
68			20	22	10	56	0.13	94.4	5.3
75			20	25	10	62	0.13	103.5	4.8
82			15	30	10	68	0.13	114	4.3
91			15	40	10	75	0.13	126	3.9
100	±10%	±5%	12	45	10	82	0.13	139	3.6
110			12	65	10	91	0.13	152	3.3
120			10	90	10	100	0.13	167	3.0
130			10	100	10	110	0.13	185	2.7
150			8.0	150	10	120	0.13	204	2,4
160	±10%	±5%	8.0	180	10	130	0.13	224	2.2
180			5.0	210	10	150	0.13	249	2.0
200			5.0	250	10	160	0.13	276	1.8
220			5.0	350	10	180	0.13	305	1.6
240	±10%	±5%	5.0	450	10	200	0.13	336	1.5
270			5.0	600	10	220	0.13	380	1.3

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 @ 300µs nominal, other pulse widths will provide different results due to self heating

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

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