



# 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
- Metallurgically Bonded
- Surface Mount Versions Available
- Ministud Versions Available
- Solid Silver Leads for High Power Dissipation
- TX, TXV, and Space Level Screening Available<sup>2/</sup>

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

**ST1.5K A 9.1 SMS TX**

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

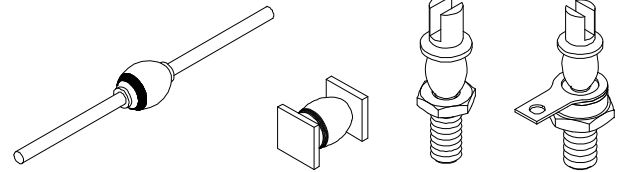
Package: = Axial  
 SMS = Square Tab  
 C = Ministud  
 V = Isolated Ministud

Voltage: 7.5 – 270 = 7.5 – 270V

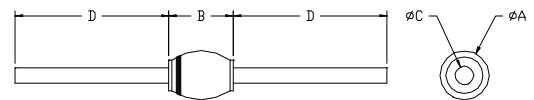
Tolerance A = ± 10%  
 B = ± 5%

## ST1.5KA7.5 thru ST1.5KA270

## 1500 W Transient Voltage Suppressors 7.5 – 270 VOLTS

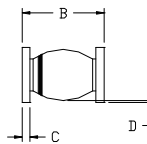


### Axial



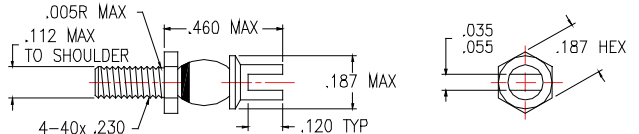
DIM	MIN	MAX
A	0.150"	0.170"
B	0.175"	0.200"
C	0.037"	0.043"
D	1.0"	—

### SMS

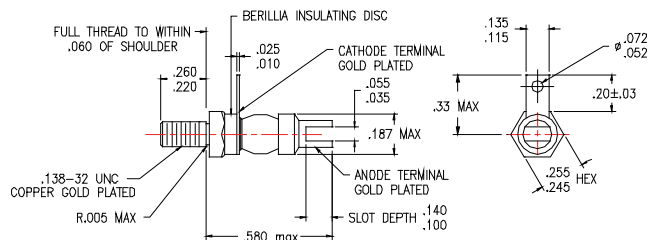


DIM	MIN	MAX
A	0.172"	0.180"
B	0.220"	0.250"
C	0.023"	0.027"
D	0.005"	—

### Ministud (C)



### Isolated Ministud (V)



\*For reverse polarity (anode to stud) add suffix "R"

Maximum Ratings	Symbol	Value	Units
Stand Off Voltage	V <sub>RWM</sub>	5.6-200	V
Peak Pulse Power @ 1.0msec	P <sub>PP</sub>	1500	W
Steady State Power Dissipation	P <sub>D</sub>	6	W
Forward Surge Current	I <sub>FSM</sub>	150	A
Operating and Storage Temp.	T <sub>op</sub> & T <sub>stg</sub>	-65 to +175	°C

NOTE: SSDI's Transient Suppressors offer standard breakdown voltage tolerances of ±10%(A) and ±5%(B). For other voltages and voltage tolerances, contact SSDI's Marketing Department.

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

DATA SHEET #: T0002B

DOC



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**ST1.5KA7.5 thru  
ST1.5KA270**

**ELECTRICAL CHARACTERISTICS**

Part Number  For 5% Voltage Tolerance specify "B" in place of "A"	Breakdown <sup>3/</sup>		Maximum Reverse Standoff		Peak Pulse Clamping		Maximum Continuous Current <sup>5/</sup>	Dynamic Impedance <sup>4/</sup>	Maximum Temperature Coefficient			
	Nominal Voltage	Test Current	Voltage	Reverse Leakage Current	Voltage (max.)	@ Current tp=1ms <sup>6/</sup>						
	V <sub>BR</sub>	@I <sub>BRT</sub>	V <sub>RWM</sub>	I <sub>R</sub> @ V <sub>RWM</sub>	V <sub>C</sub>	I <sub>PP</sub>				I <sub>RM</sub>	Z <sub>BR</sub> @ I <sub>BRT</sub>	TC @ 25°C
	Volts	mA	V	µA	V	A				mA	Ohms	%/°C
ST1.5KA7.5	7.5	175	5.6	1500	11.7	128	1250	0.7	.03			
ST1.5KA8.2	8.2	150	6.2	1200	12.5	120	1150	0.8	.03			
ST1.5KA9.1	9.1	150	6.8	40	13.8	109	1020	0.9	.03			
ST1.5KA10	10	125	7.5	20	15.0	100	950	1.0	.05			
ST1.5KA11	11	125	8.2	15	16.2	93	860	1.1	.05			
ST1.5KA12	12	100	9.1	10	17.3	87	770	1.1	.05			
ST1.5KA13	13	100	10	4	19.0	79	700	1.2	.05			
ST1.5KA15	15	75	11	2	22.0	68	600	1.2	.05			
ST1.5KA16	16	75	12	2	23.5	64	550	1.3	.06			
ST1.5KA18	18	65	13	2	26.5	57	500	1.3	.06			
ST1.5KA20	20	65	15	2	29.0	52	440	1.5	.06			
ST1.5KA22	22	50	16	2	31.9	47	390	1.6	.06			
ST1.5KA24	24	50	18	2	34.7	43	360	1.8	.06			
ST1.5KA27	27	50	20	2	38.5	39	310	2.5	.06			
ST1.5KA30	30	40	22	2	42.9	35	280	4.0	.06			
ST1.5KA33	33	40	24	2	46.9	32	260	5.0	.06			
ST1.5KA36	36	30	27	2	50.0	30	240	6.0	.06			
ST1.5KA39	39	30	30	2	55.6	27	210	7.0	.06			
ST1.5KA43	43	30	33	2	60.0	25	180	10	.07			
ST1.5KA47	47	25	36	2	65.2	23	175	12	.07			
ST1.5KA51	51	25	39	2	71.4	21	170	14	.07			
ST1.5KA56	56	20	43	2	78.9	19	160	18	.07			
ST1.5KA62	62	20	47	2	88.2	17	150	20	.08			
ST1.5KA68	68	20	51	2	93.7	16	130	22	.08			
ST1.5KA75	75	20	56	2	107.1	14	120	25	.08			
ST1.5KA82	82	15	62	2	115.4	13	110	30	.08			
ST1.5KA91	91	15	68	2	125.0	12	100	40	.08			
ST1.5KA100	100	12	75	2	136.4	11	90	45	.09			
ST1.5KA110	110	12	82	2	152.0	9.9	82	65	.09			
ST1.5KA120	120	10	91	2	167.0	9.0	75	90	.09			
ST1.5KA130	130	10	100	2	185.0	8.1	69	100	.09			
ST1.5KA150	150	8	110	2	204.0	7.2	60	150	.09			
ST1.5KA160	160	8	120	2	224.0	6.6	56	180	.09			
ST1.5KA180	180	5	130	2	249.0	6.0	50	210	.09			
ST1.5KA200	200	5	150	2	276.0	5.4	45	250	.09			
ST1.5KA220	220	5	160	2	305.0	4.8	41	350	.09			
ST1.5KA240	240	5	180	2	336.0	4.5	37	450	.09			
ST1.5KA270	270	5	200	2	380.0	3.9	34	600	.09			

**NOTES: For optional high reliability screening or higher nominal voltages, consult SSDI Marketing Department.**

<sup>1/</sup> For ordering information, price, operating curves, and availability- contact factory.

<sup>2/</sup> Screening based on MIL-PRF-19500. Screening flows available on request.

<sup>3/</sup> All voltages are measured with an automated test set using a 35 msec test time. Longer or shorter test times will have a corresponding effect on the measured value due to heating effects.

<sup>4/</sup> Dynamic Impedance is derived from the AC voltage divided by the AC current with RMS value of 10% of DC test current superimposed on the test current.

<sup>5/</sup> Ratings based on 100°C Tab temperature (SMS and C devices); multiply by 0.6 for L devices; multiply by 0.8 for V/W devices.

<sup>6/</sup> Pulse width (tp) is defined as the time from rated peak pulse current IPP to the point where peak pulse current decayed to 50% of rated IPP. (10µs x 1000µs waveform as defined by R.E.A.)

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