



**Solid State Devices, Inc.**

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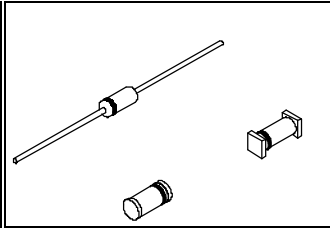
**DESIGNER'S DATA SHEET**

**FEATURES:**

- Hermetically Sealed in Glass
- Axial Lead rated at 3 W
- Surface Mount rated at 4W
- Available to TX, TXV, and Space Levels

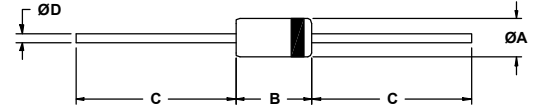
**Note:**

SSDI's Zeners offer standard Voltage Tolerance of  $\pm 10\%$  (A) and  $\pm 5\%$  (B). For other Voltages and Voltage Tolerances, contact SSDI's Marketing Department.



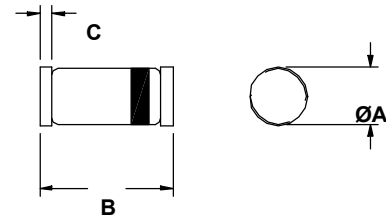
**SZ3A7.5 thru SZ3A510**

**3.0 W and 4.W  
7.5 – 510 VOLTS  
ZENER DIODES**



DIM	MIN.	MAX
A	---	.085"
B	---	.170"
C	1.0"	---
D	.028"	.034"

**AXIAL(L)**

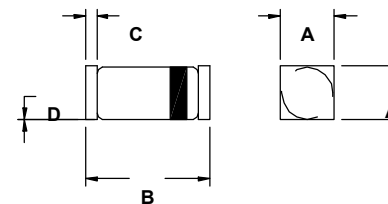


DIM	MIN	MAX
A	.077"	.083"
B	.130"	.146"
C	.010"	.022"

**ROUND TAB (SM)**

All dimensions are prior to soldering

Maximum Ratings		Symbol	Value	Units
Nominal Zener Voltage		$V_Z$	7.5 - 510	V
Maximum Zener Voltage		$I_{ZM}$	400 - 6	mA
Forward Surge Current (8.3 msec Puls)		$I_{FSM}$	8-0.04	A
Continuous Power	SM, SMS	$P_D$	3.0 4.0	W
Operating and Storage Temp.		Top & Tstg	-65 to +175	$^{\circ}C$
Thermal Resistance, Junction to Lead $L=3/8"$ (SZ3A7.5L thru SZ3A510L)		$R_{\theta JL}$	42	$^{\circ}C/W$
Thermal Resistance, Junction to End Cap (SZ3A7.5SM thru SZ3A510SM)		$R_{\theta JE}$	32	$^{\circ}C/W$
Thermal Resistance, Junction to Ambient		$R_{\theta JA}$	50	$^{\circ}C/W$



DIM	MIN.	MAX.
A	.090"	.100"
B	.175"	.215"
C	.022"	.028"
D	Body to Tab Clearance: .002"	

**SQUARE TAB (SMS)**

All dimensions are prior to soldering

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

**DATA SHEET #: Z00004D**

**DOC**



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## SZ3A7.5 thru SZ3A510

### Electrical Characteristics

PART NUMBER †		ELECTRICAL SPECIFICATIONS @ 25°C						MAXIMUM RATINGS		
		Nominal Zener Voltage (note 1)	Zener Test Current	Maximum Zener Impedance (note 2)	Maximum Reverse Leakage Current		Typical Temperature Coefficient	Maximum Continuous (note 3)	Maximum Surge Current (note 4)	
VOLTAGE TOLERANCE		VZ @ IZT	IZT	ZZ @ IZT	IR @ VR	VR		TC @ IZT	IZM	IS
10%	5%	VOLT	mA	Ohms	µA	10%(A)	5%(B)	%/°C	mA	Amps
SZ3A7.5	SZ3B7.5	7.5	100	2.0	50	3	4	.07	400	8
SZ3A8.2	SZ3B8.2	8.2	100	2.2	10	4	5	.08	360	7
SZ3A9.1	SZ3B9.1	9.1	50	4.0	10	5	6	.08	330	6
SZ3A10	SZ3B10	10	50	4.4	7	7.1	7.5	.09	300	5
SZ3A11	SZ3B11	11	50	4.9	3	7.8	8.2	.10	250	4
SZ3A12	SZ3B12	12	50	5.4	2	8.6	9.1	.10	230	4
SZ3A13	SZ3B13	13	50	6.0	2	9.5	10	.10	200	3
SZ3A15	SZ3B15	15	50	6.4	1	10.5	11	.10	185	3
SZ3A16	SZ3B16	16	25	7.1	1	11.4	12	.11	170	2
SZ3A18	SZ3B18	18	25	7.9	1	12.4	13	.11	150	2
SZ3A20	SZ3B20	20	25	8.7	1	14.3	15	.11	135	2
SZ3A22	SZ3B22	22	25	9.7	1	15.5	16	.11	125	1.5
SZ3A24	SZ3B24	24	25	11	1	17.1	18	.11	110	1.5
SZ3A27	SZ3B27	27	25	12	1	19	20	.11	100	1.5
SZ3A30	SZ3B30	30	25	16	1	20	22	.11	90	1.2
SZ3A33	SZ3B33	33	10	22	1	23	24	.11	85	1
SZ3A36	SZ3B36	36	10	28	1	26	27	.11	65	0.8
SZ3A39	SZ3B39	39	10	36	1	29	30	.11	60	0.8
SZ3A43	SZ3B43	43	10	43	1	31	33	.13	55	0.7
SZ3A47	SZ3B47	47	10	51	1	34	36	.13	50	0.6
SZ3A51	SZ3B51	51	10	60	1	37	39	.13	45	0.6
SZ3A56	SZ3B56	56	10	70	1	41	43	.13	40	0.5
SZ3A62	SZ3B62	62	10	80	1	45	47	.13	35	0.4
SZ3A68	SZ3B68	68	10	90	1	49	51	.13	30	0.4
SZ3A75	SZ3B75	75	10	100	1	53	56	.13	30	0.4
SZ3A82	SZ3B82	82	10	120	1	59	62	.13	25	0.3
SZ3A91	SZ3B91	91	5	145	1	65	68	.13	25	0.2
SZ3A100	SZ3B100	100	5	175	1	71	75	.13	20	0.2
SZ3A110	SZ3B110	110	5	250	1	77	82	.13	20	0.2
SZ3A120	SZ3B120	120	5	325	1	86	91	.13	20	0.2
SZ3A130	SZ3B130	130	5	375	1	95	100	.13	20	0.15
SZ3A150	SZ3B150	150	5	650	1	105	110	.13	18	0.15
SZ3A160	SZ3B160	160	5	780	1	114	120	.13	18	0.10
SZ3A180	SZ3B180	180	5	940	1	124	130	.13	15	0.10
SZ3A200	SZ3B200	200	2	1250	1	143	150	.13	15	0.10
SZ3A220	SZ3B220	220	2	1450	1	152	160	.13	15	0.09
SZ3A240	SZ3B240	240	2	1650	1	171	180	.13	12	0.09
SZ3A270	SZ3B270	270	2	1900	1	190	200	.13	12	0.08
SZ3A300	SZ3B300	300	2	2300	1	210	220	.14	11	0.07
SZ2A330	SZ2B330	330	2	2500	1	230	240	.14	10	0.07
SZ3A360	SZ3B360	360	2	2700	1	260	270	.14	9	0.06
SZ3A390	SZ3B390	390	2	3500	1	290	300	.14	8	0.06
SZ3A430	SZ3B430	430	2	4100	1	310	330	.15	7	0.05
SZ3A470	SZ3B470	470	2	4800	1	340	360	.15	7	0.05
SZ3A510	SZ3B510	510	2	5500	1	370	390	.16	6	0.04

**NOTES:**

† Suffix "L" for axial lead, "SM" for surface mount Round Tab. "SMS" for Square Tab.

- 1) All zener 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.
- 2) Zener impedance is derived from the AC voltage divided by the AC current with RMS value of 10% of DC zener test current superimposed on the test current.
- 3) Ratings based on maximum zener voltage of individual units (leaded units). Multiply by 1.3 for SM and SMS devices.
- 4) Figures shown are for a peak sinusoidal surge current of 8.3 msec duration, non-repetitive. The 8.3 msec square pulse rating is 71% of the value shown.
- 5) SSDI standard marking consists of a contrasting color cathode dot or band. Part number information is included on packaging labels.

For optional high reliability screening or higher nominal zener voltages, consult SSDI MARKETING Department.