



# 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

## SZN4954 thru SZN4996

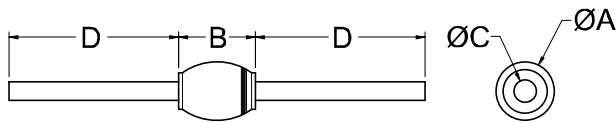
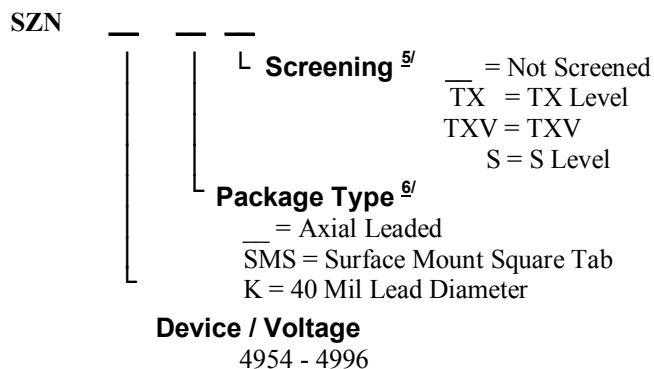
### 5 W 6.8 – 390 VOLTS ZENER DIODES

#### Designer's Data Sheet

#### FEATURES:

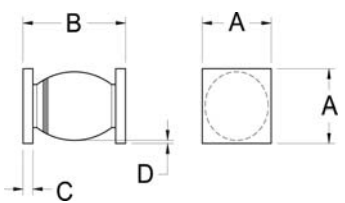
- Hermetically Glass Sealed
- High Power Dissipation 5W
- Tight Voltage Tolerance 5%
- For other Voltage, Power, or Tolerance Consult Factory.
- TX, TXV, and S-Level Screening Available <sup>5/</sup>.
- Replacement for 1N4954 – 1N4996

#### Part Number/Ordering Information <sup>4/</sup>



DIM	MIN.	MAX
A	---	.158"
B	---	.185"
C ( <u>    </u> )	.047"	.053"
C ( K )	.038"	.042"
D	1.00"	---

#### AXIAL (K &     ) All dimensions are prior to soldering



DIM	MIN.	MAX.
A	.155"	.185"
B	.190"	.220"
C	.023"	.027"
D	Body to Tab Clearance: .001"	

#### SQUARE TAB (SMS) All dimensions are prior to soldering

Maximum Ratings		Symbol	SZN4954-4996	Units
Nominal Zener Voltage		V <sub>Z</sub>	6.8 - 390	V
Continuous Power @ 65°C		P <sub>D</sub>	5	W
Operating and Storage Temp.		Top, Tstg	-65 to +175	°C
Thermal Resistance Junction to Lead, L=3/8" (Axial)	( <u>    </u> ) K - axial	R <sub>θJL</sub>	34 45	°C/W
Thermal Resistance Junction to End Cap (SMS)		R <sub>θJE</sub>	7	°C/W



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**SZN4954 thru SZN4996**

**Electrical Characteristics @ 25°C (Unless Otherwise Specified)**

PART NUMBER	V <sub>Z</sub>	V <sub>Z</sub>	V <sub>Z</sub>	I <sub>Z(1)</sub>	Z <sub>Z</sub>	Z <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>Z</sub>	V <sub>Z</sub> (reg)	I <sub>ZSM</sub>	V <sub>R</sub>	I <sub>R</sub>	∞VZ	I <sub>R</sub>
	@ I <sub>Z(1)</sub>	@ I <sub>Z(1)</sub>	@ I <sub>Z(1)</sub>	Test Current	Imp. @ I <sub>Z(1)</sub>	Knee Imp. @ I <sub>ZK</sub>	Test Current	Max dc Current	@ 10 to 50 % of I <sub>Z</sub> Max	Peak Surge	Test Voltage	Reverse Current @ V <sub>r</sub>	Temp. Coeff. @ I <sub>Z(1)</sub>	Reverse Current +150 °C
	Nom	Min	Max	---	Max	Max	---	Rating	Max	Rating	---	Max	Max	Max
	V	V	V	mA	Ω	Ω	mA	mA	V	A	V	μA	% / °C	μA
SZN4954	6.8	6.46	7.14	175	1	450	1.0	700	0.7	29.3	5.2	500	.05	750
SZN4955	7.5	7.13	7.87	175	1.5	409	1.0	630	0.7	26.4	5.7	400	.06	500
SZN4956	8.2	7.79	8.61	150	1.5	371	1.0	580	0.7	24	6.2	200	.06	300
SZN4957	9.1	8.65	9.55	150	2	338	1.0	520	0.7	22	6.9	100	.06	200
SZN4958	10.0	9.50	10.50	125	2	307	1.0	475	0.8	20	7.6	75	.07	200
SZN4959	11.0	10.45	11.55	125	2.5	322	1.0	430	0.8	19	8.4	60	.07	150
SZN4960	12.0	11.40	12.60	100	2.5	338	1.0	395	0.8	18	9.1	50	.07	150
SZN4961	13.0	12.35	13.65	100	3	344	1.0	365	0.9	16	9.9	25	.08	150
SZN4962	15	14.25	15.75	75	3.5	351	1.0	315	1.0	12	11.4	15	.08	100
SZN4963	16	15.20	16.80	75	3.5	358	1.0	294	1.1	10	12.2	10	.08	100
SZN4964	18	17.10	18.90	65	4.0	365	1.0	264	1.2	9.0	13.7	10	.085	100
SZN4965	20	19.00	21.00	65	4.5	373	1.0	237	1.5	8.0	15.2	10	.085	100
SZN4966	22	20.90	23.10	50	5.0	380	1.0	216	1.8	7.0	16.7	10	.085	100
SZN4967	24	22.8	25.2	50	5	388	1.0	198	2.0	6.5	18.2	10	.09	100
SZN4968	27	25.7	28.3	50	6	396	1.0	176	2.0	6.0	20.6	10	.09	100
SZN4969	30	28.5	31.5	40	8	403	1.0	158	2.5	5.5	22.8	10	.09	100
SZN4970	33	31.4	34.6	40	10	412	1.0	144	2.8	5.0	25.1	5.0	.095	100
SZN4971	36	34.2	37.8	30	11	420	1.0	132	3.0	4.5	27.4	5.0	.095	100
SZN4972	39	37.1	40.9	30	14	428	1.0	122	3.0	4.0	29.7	5.0	.095	100
SZN4973	43	40.9	45.1	30	20	437	1.0	110	3.3	3.5	32.7	5.0	.095	100
SZN4974	47	44.7	49.3	25	25	445	1.0	100	3.5	3.2	35.8	5.0	.095	100
SZN4975	51	48.5	53.5	25	27	473	1.0	92	4.0	3.0	38.8	5.0	.095	100
SZN4976	56	53.2	58.8	20	35	560	1.0	84	4.4	2.8	42.6	5.0	.095	100
SZN4977	62	58.9	65.1	20	42	700	1.0	76	5.0	2.5	47.1	5.0	.100	100
SZN4978	68	64.6	71.4	20	50	750	1.0	70	5.5	2.2	51.7	5.0	.100	100
SZN4979	75	71.3	78.7	20	55	800	1.0	63	6.0	2.0	56	5.0	.100	100
SZN4980	82	77.9	86.1	15	80	850	1.0	58	6.6	1.8	62.2	5.0	.100	100
SZN4981	91	86.5	95.5	15	90	900	1.0	52.5	7.5	1.6	69.2	5.0	.100	100
SZN4982	100	95.0	105	12	110	950	1.0	47.5	8.0	1.4	76.0	5.0	.100	100
SZN4983	110	104.5	115.5	12	125	1000	1.0	43	9.0	1.2	83.6	5.0	.100	100
SZN4984	120	114.0	126.0	10	170	1050	1.0	39.5	10	1.0	91.2	5.0	.100	100
SZN4985	130	123.5	136.5	10	190	1100	1.0	36.6	11	0.8	98.8	5.0	.105	100
SZN4986	150	142.5	157.5	8	330	1150	1.0	31.6	13	0.75	114.0	5.0	.105	100
SZN4987	160	152	168	8	350	1200	1.0	29.4	14	0.70	121.6	5.0	.105	100
SZN4988	180	171	189	5	450	1250	1.0	26.4	16	0.60	136.8	5.0	.110	100
SZN4989	200	190	210	5	500	1300	1.0	23.6	18	0.50	152.0	5.0	.110	100
SZN4990	220	209	231	5	550	1333	1.0	21.6	19	0.50	167.0	5.0	.115	100

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

**DATA SHEET #: Z00010D**

**DOC**



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### Electrical Characteristics @ 25°C (Unless Otherwise Specified)

PART NUMBER	V <sub>Z</sub>	V <sub>Z</sub>	V <sub>Z</sub>	I <sub>Z(1)</sub>	Z <sub>Z</sub>	Z <sub>ZK</sub>	I <sub>ZK</sub>	I <sub>Z</sub>	V <sub>Z</sub> (reg)	I <sub>ZSM</sub>	V <sub>R</sub>	I <sub>R</sub>	∞V <sub>Z</sub>	I <sub>R</sub>
	@ I <sub>Z(1)</sub>	@ I <sub>Z(1)</sub>	@ I <sub>Z(1)</sub>	Test Current	Imp. @ I <sub>Z(1)</sub>	Knee Imp. @ I <sub>ZK</sub>	Test Current	Max dc Current	@ 10 to 50 % of I <sub>Z</sub> Max	Peak Surge	Test Voltage	Reverse Current @ V <sub>r</sub>	Temp. Coeff. @ I <sub>Z(1)</sub>	Reverse Current +150 °C
	Nom	Min	Max	---	Max	Max	---	Rating	Max	Rating	---	Max	Max	Max
	V	V	V	mA	Ω	Ω	mA	mA	V	A	V	μA	% / °C	μA
SZN4991	240	228	252	5	650	1367	1.0	19.8	22	0.40	182.0	2.0	.115	100
SZN4992	270	257	283	5	800	1400	1.0	17.5	25	0.35	206.0	2.0	.120	100
SZN4993 <sup>2/</sup>	300	285	315	4	950	1433	1.0	15.6	28	0.30	228.0	2.0	.120	100
SZN4994 <sup>2/</sup>	330	314	346	4	1,175	1467	1.0	14.4	32	0.25	251.0	2.0	.120	100
SZN4995 <sup>2/</sup>	360	342	378	3	1,400	1533	1.0	13.0	35	0.22	274.0	2.0	.120	100
SZN4996 <sup>2/</sup>	390	371	409	3	1,800	1667	1.0	12.0	40	0.20	297.0	2.0	.120	100

#### NOTES:

- 1/ All zener voltages are measured with an automated test set using a 10 - 50 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/ SSDI standard marking consists of a contrasting color cathode dot or band. Part number information is included on packaging labels.
- 4/ For Ordering Information, Price, and Availability- Contact Factory.
- 5/ Screening based on MIL-PRF-19500. Screening flows available on request.
- 6/ Suffix "SMS" for Square Tab Surface Mount.
- 7/ For tighter tolerances, consult the factory.
- 8/ Figures shown are for a peak sinusoidal surge current of 8.3 msec duration, repeated a maximum of 1 surge per minute.
- 9/ Contact factory for availability

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