



**Solid State Devices, Inc.**

14701 Firestone Blvd \* La Mirada, Ca 90638  
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**DESIGNER'S DATA SHEET**

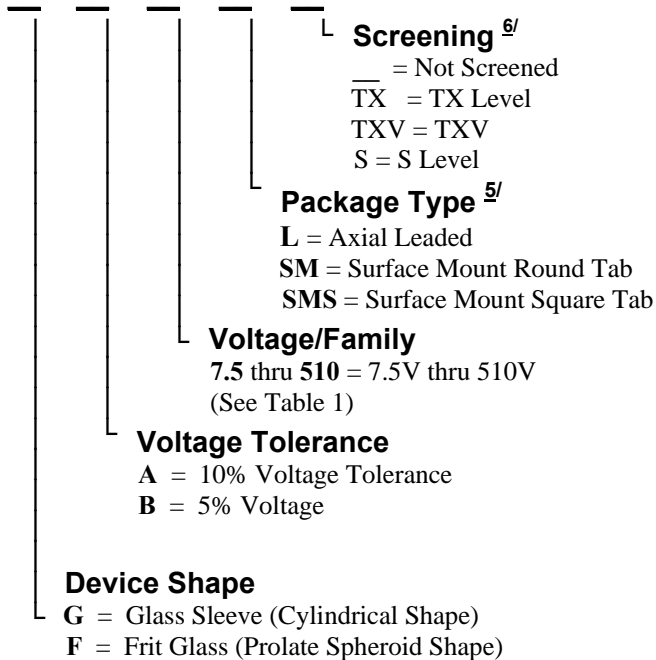
**FEATURES:**

- Hermetically Sealed in Glass
- Axial Lead rated at 3 W
- Surface Mount rated at 4W
- Available Screening to TX, TXV, and Space Levels <sup>6/</sup>
- Voltage Tolerances of 10% (A) and 5% (B) Available. Contact factory for other Voltage Tolerances
- Voltage Range from 7.5V to 510V. For Other Voltages, Contact Factory.

Maximum Ratings	Symbol	Value	Units
Nominal Zener Voltage	V <sub>Z</sub>	7.5 - 510	V
Maximum Zener Current	I <sub>ZM</sub>	400 - 6	mA
Forward Surge Current (8.3 msec Pulse)	I <sub>FSM</sub>	8-0.04	A
Continuous Power	<sup>L</sup> P <sub>D</sub> SM, SMS	3.0 4.0	W
Operating and Storage Temp.	Top & Tstg	-65 to +175	°C
Thermal Resistance, Junction to Lead, Axial, L=3/8	R <sub>θJL</sub>	42	°C/W
Junction to End Cap, SM, SMS	R <sub>θJE</sub>	32	
Junction to Ambient	R <sub>θJA</sub>	50	

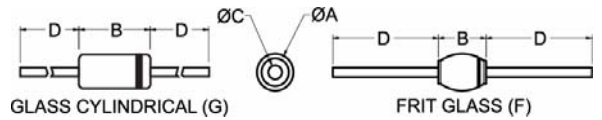
**Part Number/Ordering Information <sup>7/</sup>**

**SZ3**



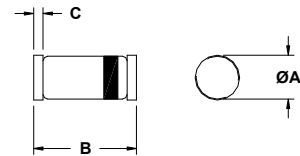
**SZ3GA7.5 thru SZ3GB510  
 and  
 SZ3FA7.5 thru SZ3FB510**

**3.0 W and 4.0 W  
 7.5 – 510 VOLTS  
 ZENER DIODES**



DIM	GLASS SLEEVE (G)		FRIT GLASS (F)	
	MIN.	MAX.	MIN.	MAX.
A	---	.085"	---	.145"
B	---	.170"	---	.175"
C	.028"	.034"	.028"	.034"
D	1.00"	---	1.00"	---

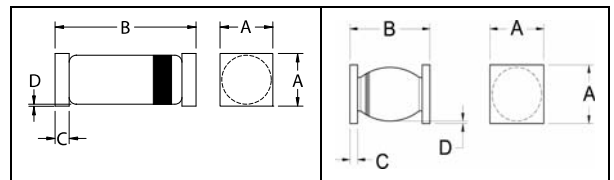
**AXIAL(L) <sup>5/</sup>**



DIM	GLASS SLEEVE (G)	
	MIN	MAX
A	.077"	.083"
B	.130"	.146"
C	.010"	.022"

**ROUND TAB (SM) <sup>5/</sup>**

All dimensions are prior to soldering



DIM	GLASS SLEEVE (G)		FRIT GLASS (F)	
	MIN.	MAX.	MIN.	MAX.
A	.090"	.100"	.145"	.155"
B	.175"	.215"	.200"	.220"
C	.022"	.028"	.022"	.028"
D	.002"	---	.002"	---

**SQUARE TAB (SMS) <sup>5/</sup>**

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 #: Z00004F**

**DOC**



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**SZ3GA7.5 thru SZ3GB510  
and  
SZ3FA7.5 thru SZ3FB510**

<b>Table 1</b>										
<b>PART NUMBER †</b>		<b>ELECTRICAL SPECIFICATIONS @ 25°C</b>							<b>MAXIMUM RATINGS</b>	
		<b>Nominal Zener Voltage <sup>1/</sup></b>	<b>Zener Test Current</b>	<b>Maximum Zener Impedance <sup>2/</sup></b>	<b>Maximum Reverse Leakage Current</b>		<b>Typical Temperature Coefficient</b>	<b>Maximum Continuous Current <sup>3/</sup></b>	<b>Maximum Surge Current <sup>4/</sup></b>	
		<b>VZ @ IZT</b>	<b>IZT</b>	<b>ZZ @ IZT</b>	<b>IR @ VR</b>	<b>VR</b>		<b>TC @ IZT</b>	<b>IZM</b>	<b>IS</b>
<b>10%</b>	<b>5%</b>	<b>VOLT</b>	<b>mA</b>	<b>Ohms</b>	<b>µA</b>	<b>10%(M)</b>	<b>5%(N)</b>	<b>%/°C</b>	<b>mA</b>	<b>Amps</b>
SZ3GA7.5	SZ3GB7.5	7.5	100	2.0	50	3	4	.07	400	8
SZ3GA8.2	SZ3GB8.2	8.2	100	2.2	10	4	5	.08	360	7
SZ3GA9.1	SZ3GB9.1	9.1	50	4.0	10	5	6	.08	330	6
SZ3GA10	SZ3GB10	10	50	4.4	7	7.1	7.5	.09	300	5
SZ3GA11	SZ3GB11	11	50	4.9	3	7.8	8.2	.10	250	4
SZ3GA12	SZ3GB12	12	50	5.4	2	8.6	9.1	.10	230	4
SZ3GA13	SZ3GB13	13	50	6.0	2	9.5	10	.10	200	3
SZ3GA15	SZ3GB15	15	50	6.4	1	10.5	11	.10	185	3
SZ3GA16	SZ3GB16	16	25	7.1	1	11.4	12	.11	170	2
SZ3GA18	SZ3GB18	18	25	7.9	1	12.4	13	.11	150	2
SZ3GA20	SZ3GB20	20	25	8.7	1	14.3	15	.11	135	2
SZ3GA22	SZ3GB22	22	25	9.7	1	15.5	16	.11	125	1.5
SZ3GA24	SZ3GB24	24	25	11	1	17.1	18	.11	110	1.5
SZ3GA27	SZ3GB27	27	25	12	1	19	20	.11	100	1.5
SZ3GA30	SZ3GB30	30	25	16	1	20	22	.11	90	1.2
SZ3GA33	SZ3GB33	33	10	22	1	23	24	.11	85	1
SZ3GA36	SZ3GB36	36	10	28	1	26	27	.11	65	0.8
SZ3GA39	SZ3GB39	39	10	36	1	29	30	.11	60	0.8
SZ3GA43	SZ3GB43	43	10	43	1	31	33	.13	55	0.7
SZ3GA47	SZ3GB47	47	10	51	1	34	36	.13	50	0.6
SZ3GA51	SZ3GB51	51	10	60	1	37	39	.13	45	0.6
SZ3GA56	SZ3GB56	56	10	70	1	41	43	.13	40	0.5
SZ3GA62	SZ3GB62	62	10	80	1	45	47	.13	35	0.4
SZ3GA68	SZ3GB68	68	10	90	1	49	51	.13	30	0.4
SZ3GA75	SZ3GB75	75	10	100	1	53	56	.13	30	0.4
SZ3GA82	SZ3GB82	82	10	120	1	59	62	.13	25	0.3
SZ3GA91	SZ3GB91	91	5	145	1	65	68	.13	25	0.2
SZ3GA100	SZ3GB100	100	5	175	1	71	75	.13	20	0.2
SZ3GA110	SZ3GB110	110	5	250	1	77	82	.13	20	0.2
SZ3GA120	SZ3GB120	120	5	325	1	86	91	.13	20	0.2
SZ3GA130	SZ3GB130	130	5	375	1	95	100	.13	20	0.15
SZ3GA150	SZ3GB150	150	5	650	1	105	110	.13	18	0.15
SZ3GA160	SZ3GB160	160	5	780	1	114	120	.13	18	0.10
SZ3GA180	SZ3GB180	180	5	940	1	124	130	.13	15	0.10
SZ3GA200	SZ3GB200	200	2	1250	1	143	150	.13	15	0.10
SZ3GA220	SZ3GB220	220	2	1450	1	152	160	.13	15	0.09
SZ3GA240	SZ3GB240	240	2	1650	1	171	180	.13	12	0.09
SZ3GA270	SZ3GB270	270	2	1900	1	190	200	.13	12	0.08
SZ3GA300	SZ3GB300	300	2	2300	1	210	220	.14	11	0.07
SZ3GA330	SZ3GB330	330	2	2500	1	230	240	.14	10	0.07
SZ3GA360	SZ3GB360	360	2	2700	1	260	270	.14	9	0.06
SZ3GA390	SZ3GB390	390	2	3500	1	290	300	.14	8	0.06
SZ3GA430	SZ3GB430	430	2	4100	1	310	330	.15	7	0.05
SZ3GA470	SZ3GB470	470	2	4800	1	340	360	.15	7	0.05
SZ3GA510	SZ3GB510	510	2	5500	1	370	390	.16	6	0.04

**NOTES:** † Prefix "SZ3G" indicates glass cylindrical shape. Replace with "SZ3F" for frit glass shape. 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. SM package not available with frit glass shape.
- 6) Screened to MIL-PRF-19500.
- 7) For ordering information, price, operating curves, and availability- Contact Factory.

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