Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, Ca 90638
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SZ3GA7.5 thru SZ3GB510 and SZ3FA7.5 thru SZ3FB510

DESIGNER'S DATA SHEET

3.0 W and 4.0 W 7.5 – 510 VOLTS ZENER DIODES

FEATURES:

- **Hermetically Sealed in Glass**
- **Axial Lead rated at 3 W**
- **Surface Mount rated at 4W**
- **Available Screening to TX, TXV, and Space Levels** 6/
- **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_Z	7.5 - 510	**V**
Maximum Zener Current		I_{ZM}	400 - 6	**mA**
Forward Surge Current (8.3 msec Pulse)		I_{FSM}	8-0.04	**A**
Continuous Power	L SM, SMS	P_D	3.0 4.0	**W**
Operating and Storage Temp.		**Top &Tstg**	-65 to +175	**ºC**
Thermal Resistance, Junction to Lead, Axial, L=3/8 Junction to End Cap, SM, SMS Junction to Ambient		$R_{\theta JL}$ $R_{\theta JE}$ $R_{\theta JA}$	42 32 50	**ºC/W**

Part Number/Ordering Information 7/

SZ3 ___ ___ ___ ___ ___

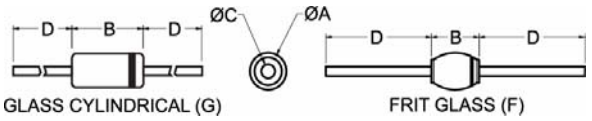
Screening 6/
__ = Not Screened
TX = TX Level
TXV = TXV
S = S Level

Package Type 5/
L = Axial Leaded
SM = Surface Mount Round Tab
SMS = Surface Mount Square Tab

Voltage/Family
7.5 thru **510** = 7.5V thru 510V
(See Table 1)

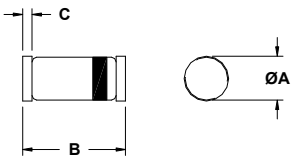
Voltage Tolerance
A = 10% Voltage Tolerance
B = 5% Voltage

Device Shape
G = Glass Sleeve (Cylindrical Shape)
F = Frit Glass (Prolate Spheroid Shape)



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

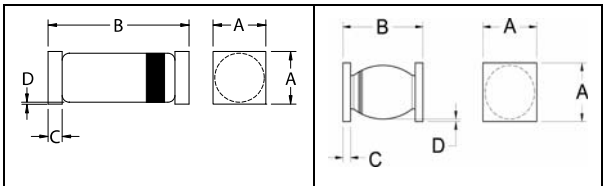
AXIAL(L) 5/



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

ROUND TAB (SM) 5/

All dimensions are prior to soldering



	GLASS SLEEVE (G)		FRIT GLASS (F)	
DIM	**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) 5/

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.

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SZ3GA7.5 thru SZ3GB510 and SZ3FA7.5 thru SZ3FB510

Table 1

PART NUMBER †		ELECTRICAL SPECIFICATIONS @ 25°C							MAXIMUM RATINGS	
		Nominal Zener Voltage [1]	Zener Test Current	Maximum Zener Impedance [2]	Maximum Reverse Leakage Current			Typical Temperature Coefficient	Maximum Continuous Current [3]	Maximum Surge Current [4]
VOLTAGE TOLERANCE		VZ @ IZT	IZT	ZZ @ IZT	IR @ VR	VR		TC @ IZT	IZM	IS
10%	5%	VOLT	mA	Ohms	µA	10%(M)	5%(N)	%/°C	mA	Amps
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.