Solid State Devices, Inc.
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SZ6A7.5 thru SZ6A270 and SZ6B7.5 thru SZ6B270

DESIGNER'S DATA SHEET

6.0W, 8.0W, and 10W 7.5 – 270 VOLTS ZENER DIODES

FEATURES:

- **Hermetically Sealed in Glass**
- **Axial Lead Rated at 6 Watts**
- **Stud Mount Rated at 8 Watts**
- **Surface Mount Rated at 10 Watts**
- **Available to TX, TXV, and Space Levels** [5/]
- **Available in 10% and 5% Tolerances. For other Voltage Tolerances, Contact Factory.**

Maximum Ratings		Symbol	Value	Units
Nominal Zener Voltage		V_Z	7.5 - 270	**V**
Forward Surge Current 8.3 msec pulse		I_{FSM}	1 - 44	**A**
Zener Current	**Axial** **V** **C, SMS**	I_{ZM}	20.4 - 750 27.2 - 1000 34 - 1250	**mA**
Continuous Power	**Axial** **V** **C, SMS**	P_D	6 8 10	**W**
Operating and Storage Temp.		**Top, Tstg**	-65 to +175	**ºC**
Thermal Resistance, Junction to Lead, L=3/8" (for Axial) Junction to End Cap (for SMS) Junction to Stud (for C and V)		$R_{\theta JL}$ $R_{\theta JE}$ $R_{\theta JS}$	34 7 10	**ºC/W**

Part Number/Ordering Information [4/]

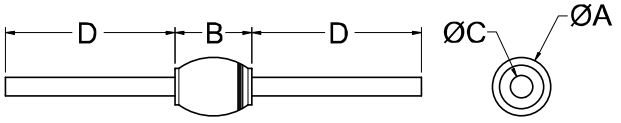
SZ6 ___ ___ ___ ___

Screening [5/]
__ = Not Screened
TX = TX Level
TXV = TXV
S = S Level

Package Type [3/]
__ = Axial Leaded
C = Ministud (CR for Reverse Polarity)
V = Isolated Ministud (VR for Reverse Polarity)
SMS = Surface Mount Square Tab

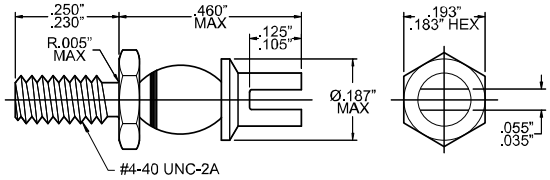
Voltage/Family
3.3 thru 100 = 3.3V thru 100V, See Table on Page 2

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

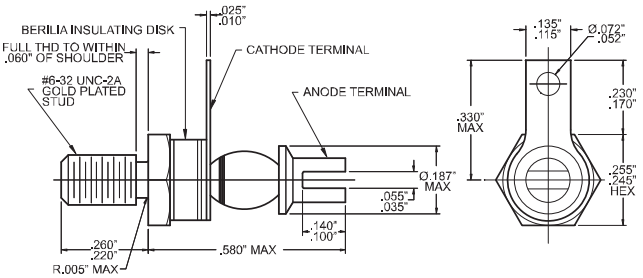


DIM	MIN.	MAX
A	---	.158"
B	---	.185"
C	.047"	.053"
D	1.00"	---

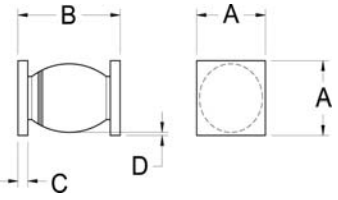
AXIAL (__) All dimensions are prior to soldering



MINISTUD (C) All dimensions are prior to soldering



ISOLATED MINISTUD (V) 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

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

DATA SHEET #: Z00005F | **DOC**

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SZ6A7.5 thru SZ6A270 and SZ6B7.5 thru SZ6B270

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Maximum Ratings @ 25°C

PART NUMBER (note 6)		Nominal Zener Voltage (note 1)	Zener Test Current	Maximum Zener Impedance (note 2)	Maximum Reverse Leakage Current		Typical Temp. Coefficient	Max. Continuous Current			Max. Surge Current (note 8)
								Axial (___)	Isolated Ministud (V)	Surface Mount (SMS) and Ministud (C)	
Voltage Tolerance		VZ @ IZT	IZT	ZZ @ IZT	IR @ VR	VR[7/] 10% (A)	TC @ IZT	IZM	IZM	IZM	IFSM
10%	5%	Volts	mA	Ohms	µA	Volts	%/°C	mA			Amps
SZ6A7.5	SZ6B7.5	7.5	175	0.7	400	5.6	.03	750	1000	1250	44
SZ6A8.2	SZ6B8.2	8.2	150	0.8	200	6.2	.03	690	920	1150	40
SZ6A9.1	SZ6B9.1	9.1	150	0.9	100	6.8	.03	612	816	1020	37
SZ6A10	SZ6B10	10	125	1.0	75	7.5	.05	570	760	950	34
SZ6A11	SZ6B11	11	125	1.1	50	8.2	.05	516	688	860	32
SZ6A12	SZ6B12	12	100	1.1	50	9.1	.05	462	616	770	31
SZ6A13	SZ6B13	13	100	1.2	25	10	.05	420	560	700	29
SZ6A15	SZ6B15	15	75	1.2	25	11	.05	360	480	600	26
SZ6A16	SZ6B16	16	75	1.3	10	12	.06	330	440	550	23
SZ6A18	SZ6B18	18	65	1.3	10	13	.06	300	400	500	21
SZ6A20	SZ6B20	20	65	1.5	10	15	.06	264	352	440	19
SZ6A22	SZ6B22	22	50	1.6	10	16	.06	234	312	390	17
SZ6A24	SZ6B24	24	50	1.8	10	18	.06	216	288	360	16
SZ6A27	SZ6B27	27	50	2.5	10	20	.06	186	248	310	14
SZ6A30	SZ6B30	30	40	4	10	22	.06	168	224	280	13
SZ6A33	SZ6B33	33	40	5	5	24	.06	156	208	260	11
SZ6A36	SZ6B36	36	30	6	5	27	.06	144	192	240	10
SZ6A39	SZ6B39	39	30	7	5	30	.06	126	168	210	10
SZ6A43	SZ6B43	43	30	10	5	33	.07	108	144	180	9
SZ6A47	SZ6B47	47	25	12	5	36	.07	105	140	175	8
SZ6A51	SZ6B51	51	25	14	5	39	.07	102	136	170	8
SZ6A56	SZ6B56	56	20	18	5	43	.07	96	128	160	7
SZ6A62	SZ6B62	62	20	20	5	47	.08	90	120	150	7
SZ6A68	SZ6B68	68	20	22	5	51	.08	78	104	130	6
SZ6A75	SZ6B75	75	20	25	5	56	.08	72	96	120	6
SZ6A82	SZ6B82	82	15	30	5	62	.08	66	88	110	5
SZ6A91	SZ6B91	91	15	43	5	68	.08	60	80	100	4
SZ6A100	SZ6B100	100	12	45	5	75	.09	54	72	90	4
SZ6A110	SZ6B110	110	12	65	5	82	.09	49.2	65.6	82	2
SZ6A120	SZ6B120	120	10	90	5	91	.09	45.0	60.0	75	2
SZ6A130	SZ6B130	130	10	100	5	100	.09	41.4	55.2	69	2
SZ6A150	SZ6B150	150	8	150	5	110	.09	36.0	48.0	60	2
SZ6A160	SZ6B160	160	8	180	5	120	.09	33.6	44.8	56	2
SZ6A180	SZ6B180	180	5	210	5	130	.09	30.0	40.0	50	2
SZ6A200	SZ6B200	200	5	250	5	150	.09	27.0	36.0	45	1
SZ6A220	SZ6B220	220	5	350	5	160	.09	24.6	32.8	41	1
SZ6A240	SZ6B240	240	5	450	5	180	.09	22.2	29.6	37	1
SZ6A270	SZ6B270	270	5	600	5	200	.09	20.4	27.2	34	1

NOTES:

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/ 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, Operating Curves, and Availability- Contact Factory.

5/ Screening based on MIL-PRF-19500. Screening flows available on request.

6/ Suffix "C" for Ministud, "V" for Isolated Ministud, and "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, non-repetitive. The 8.3 msec square wave pulse rating is 71% of the value shown.