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

SZN5063 thru SZN5117 Series

DESIGNER'S DATA SHEET

3.0 WATT
6.8 – 400 VOLTS
ZENER DIODES

FEATURES:

- **Hermetically Sealed in Glass**
  (Available in Frit Glass see SSDI datasheet # Z00004)
- **Rated at 3.0 W**
- **Available in Axial, Round Tab Surface Mount (SM) and Square Tab Surface Mount (SMS) version**
- **Available to TX, TXV, and Space Levels** [7/]
- **Zener Voltage, 10%, 5%, 2% or 1% Tolerance**
- **Replacement for 1N5063 thru 5117**

Maximum Ratings	Symbol	Value	Units
Nominal Zener Voltage	V_Z	6.8 - 400	**V**
Maximum Zener Current	I_{ZM}	7.0 - 440	**mA**
Forward Surge Current (8.3 msec Puls)	I_{FSM}	.06 – 10	**A**
Continuous Power	P_D	3.0	**W**
Operating and Storage Temp.	**Top** **Tstg**	-65 to +175 -65 to +200	**ºC**
Thermal Resistance, Junction to Lead L=3/8" (Axial)	$R_{\theta JL}$	65	**ºC/W**
Thermal Resistance, Junction to End Cap (SM / SMS)	$R_{\theta JE}$	30	**ºC/W**

Part Number/Ordering Information [6/]

SZN ___ ___ ___ ___

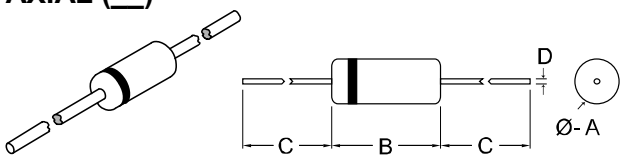
Screening [7/]
__ = Not Screened
TX = TX Level
TXV = TXV
S = S Level

Package Type
__ = Axial Leaded
SM = Surface Mount Round Tab
SMS = Surface Mount Square Tab

Tolerance
A = 10%
B = 5% (JEDEC Registration)
C = 2 %
D = 1%

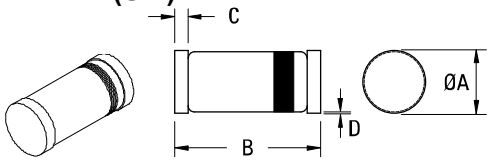
Voltage/Family
5063 thru 5117

AXIAL (__)



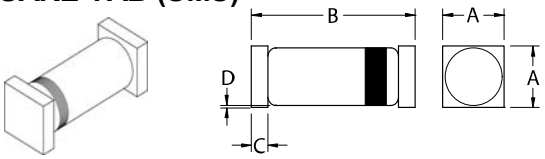
DIM	MIN.	MAX
A	.055"	.085"
B	.130"	.175"
C	1.00"	---
D	.028"	.034"

ROUND TAB (SM)



DIM	MIN.	MAX.
A	.077"	.083"
B	.130"	.146"
C	.010"	.022"
D	+.000"	---

SQUARE TAB (SMS)



DIM	MIN.	MAX.
A	.090"	.100"
B	.175"	.215"
C	.022"	.028"
D	Body to Tab Clearance: .001"	

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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Electrical Characteristics @ 25°C

PART NUMBER	Nominal Zener Voltage (note 1)	Zener Test Current	Maximum Zener Impedance (note 2)	Maximum Continuous Current (note 3)	Regulation Iz = 10% to 50% of Iz max	Maximum Surge Current (note 4)	Maximum Reverse Leakage Current		Forward Voltage Drop @ 1A
	VZ @ IZT	IZT	ZZ @ IZT	IZM	ΔVz	IFSM	VR	I(note 8)R	Vf
	V	mA	Ω	mA	V	A	V	µA	V
SZN5063	6.8	75	2	440	0.7	10.0	5.2	500	1.5
SZN5064	7.5	75	2	400	0.7	8.0	5.7	300	1.5
SZN5065	8.2	75	3	360	0.7	7.0	6.2	200	1.5
SZN5066	9.1	75	3	330	0.7	6.0	6.9	100	1.5
SZN5067	10	75	4	300	0.7	5.0	7.6	40	1.5
SZN5068	11	70	5	275	0.7	4.5	8.4	25	1.5
SZN5069	13	50	6	230	0.7	4.0	9.9	10	1.5
SZN5070	14	50	6	210	0.7	4.0	10.7	10	1.5
SZN5071	15	50	6	200	0.8	3.0	11.4	10	1.5
SZN5072	16	50	7	185	0.9	3.0	12.2	5	1.5
SZN5073	18	40	8	170	1.0	2.0	13.7	5	1.5
SZN5074	22	30	10	135	1.8	2.0	16.7	5	1.5
SZN5075	24	30	10	125	2.0	1.5	18.2	5	1.5
SZN5076	27	25	12	110	2.0	1.5	20.6	1	1.5
SZN5077	30	25	15	100	2.5	1.5	22.8	1	1.5
SZN5078	33	20	21	90	2.8	1.2	25.1	1	1.5
SZN5079	36	20	21	85	3.0	1.0	27.4	1	1.5
SZN5080	39	20	27	80	3.0	1.0	29.7	1	1.5
SZN5081	40	20	27	75	3.0	1.0	30.4	1	1.5
SZN5082	43	15	35	70	3.3	0.8	32.7	1	1.5
SZN5083	45	15	37	65	3.5	0.8	34.2	1	1.5
SZN5084	47	15	43	62	3.5	0.8	35.8	1	1.5
SZN5085	50	15	50	60	3.6	0.8	38.0	1	1.5
SZN5086	51	15	50	60	3.8	0.80	38.8	1	1.5
SZN5087	56	10	70	55	4.0	0.70	42.6	1	1.5
SZN5088	60	10	70	50	4.8	0.60	45.6	1	1.5
SZN5089	62	10	75	45	4.8	0.60	47.1	1	1.5
SZN5090	68	10	85	45	5.7	0.60	51.7	1	1.5
SZN5091	70	10	90	45	5.8	0.60	53.3	1	1.5
SZN5092	75	10	100	40	6.8	0.50	56.0	1	1.5
SZN5093	80	10	115	35	7.7	0.40	60.9	1	1.5
SZN5094	82	10	120	35	7.8	0.40	62.2	1	1.5
SZN5095	91	8.0	155	30	8.0	0.40	69.2	1	1.5
SZN5096	110	5.0	250	25	9.0	0.30	83.6	1	1.5
SZN5097	120	5.0	325	25	11	0.20	91.2	1	1.5

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Electrical Characteristics @ 25°C

PART NUMBER	Nominal Zener Voltage (note 1)	Zener Test Current	Maximum Zener Impedance (note 2)	Maximum Continuous Current (note 3)	Regulation Iz = 10% to 50% of Iz max	Maximum Surge Current (note 4)	Maximum Reverse Leakage Current (note 8)		Forward Voltage Drop @ 1A
	VZ @ IZT	IZT	ZZ @ IZT	IZM	ΔVz	IFSM	VR	IR	Vf
	V	mA	Ω	mA	V	A	V	µA	V
SZN5098	130	5.0	375	20	14	0.20	98.8	1	1.5
SZN5099	140	5.0	550	20	14	0.20	106.4	1	1.5
SZN5100	160	4.0	700	20	16	0.15	121.6	1	1.5
SZN5101	170	4.0	750	18	16	0.15	129.2	1	1.5
SZN5102	180	4.0	850	18	17	0.10	136.8	1	1.5
SZN5103	190	4.0	900	15	17	0.10	144.7	1	1.5
SZN5104	200	4.0	950	15	17	0.10	152.0	1	1.5
SZN5105	220	3.0	1100	15	18	0.09	167	1	1.5
SZN5106	240	3.0	1300	12	21	0.09	182	1	1.5
SZN5107	260	3.0	1500	12	21	0.08	198	1	1.5
SZN5108	270	3.0	1600	10	22	0.08	206	1	1.5
SZN5109	280	3.0	1700	10	23	0.08	213	1	1.5
SZN5110	300	3.0	1900	10	26	0.07	228	1	1.5
SZN5111	320	2.0	2100	9	26	0.07	244	1	1.5
SZN5112	330	2.0	2250	9	30	0.06	251	1	1.5
SZN5113	340	2.0	2400	8	33	0.06	259	1	1.5
SZN5114	360	2.0	2700	8	33	0.06	274	1	1.5
SZN5115	380	2.0	3000	8	34	0.06	289	1	1.5
SZN5116	390	2.0	3250	7	37	0.06	297	1	1.5
SZN5117	400	2.0	3500	7	40	0.06	304	1	1.5

NOTES:

1/ All zener voltages are measured with an automated test set using a 20-50 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/ Ratings based on maximum zener voltage of individual units (leaded units).

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.

6/ For Ordering Information, Price, and Availability- Contact Factory.

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

8/ For 10% tolerance devices, reduce Vr test voltage by 5%