



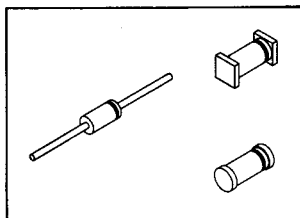
PRELIMINARY

SOLID STATE DEVICES, INC14849 Firestone Boulevard · La Mirada, CA 90638
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424**Designer's Data Sheet****FEATURES:**

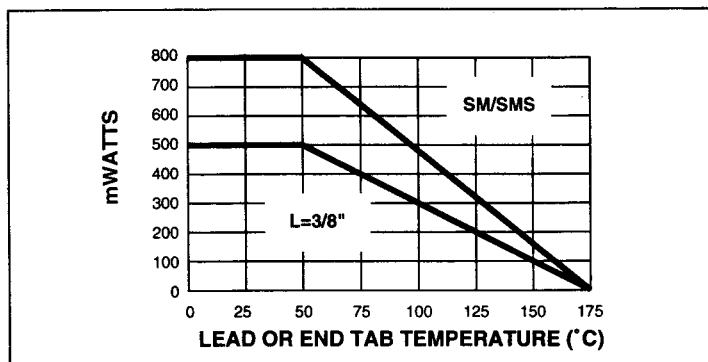
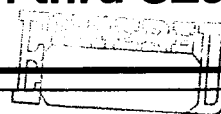
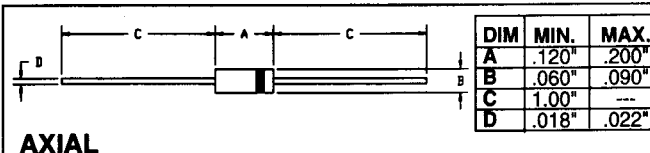
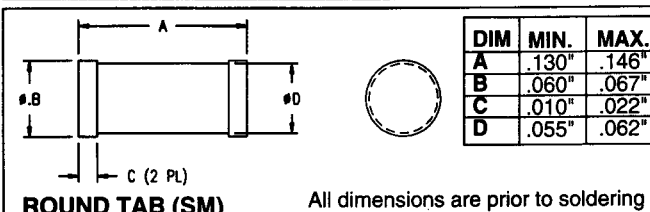
- Hermetically Sealed in Glass
- Axial Lead rated at 500 mW
- Surface Mount rated at 800mW
- Available to TX, TXV, and Space Levels

NOTE:

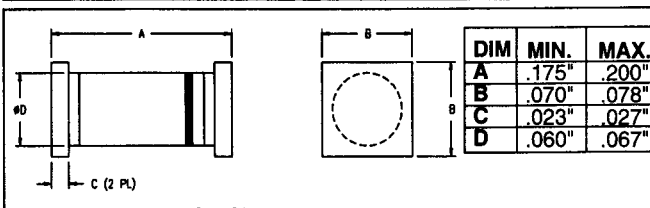
SSDI's Zeners offer standard Voltage Tolerance of $\pm 10\%$ (A) and $\pm 5\%$ (B). For other Voltages and Voltage Tolerances, contact SSDI's Marketing Department.

**MAXIMUM RATINGS**

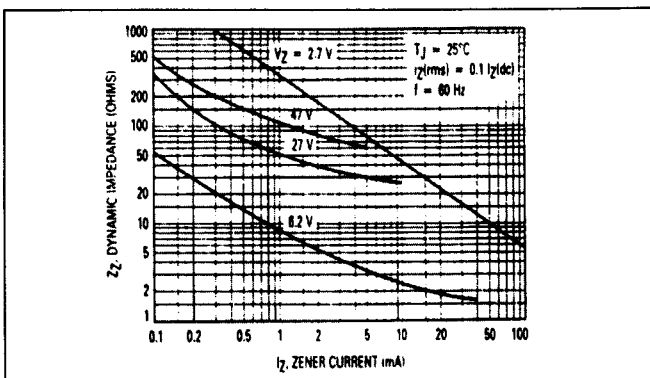
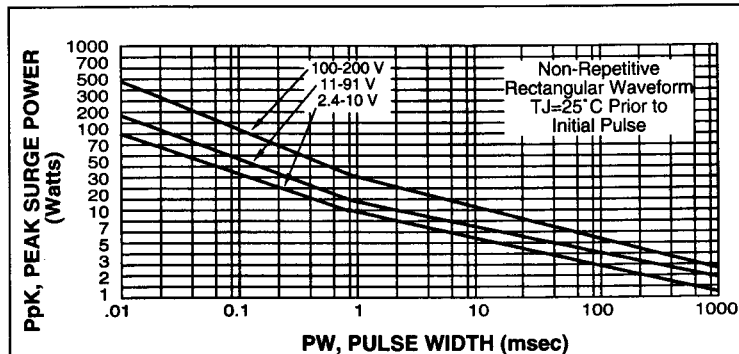
CHARACTERISTICS	SYMBOL	VALUE	UNIT
Nominal Zener Voltage	VZ	2.4 - 200	V
Maximum Zener Current	I _{ZM}	198-2.2	mA
Continuous Power	L SM,SMS	500 800	mW
Operating and Storage Temp.	Top &Tstg	-65 to +175	°C
Thermal Resistance, Junction to Lead, L=3/8" (SZ5A2.4L thru SZ5A200L)	R _{θJL}	250	°C/W
Thermal Resistance, Junction to End Tab (SZ5A2.4SM thru SZ5A200SM)	R _{θJE}	150	°C/W
Thermal Resistance, Junction to Ambient	R _{θJA}	300	°C/W

POWER VS. TEMPERATURE DERATING CURVE**SZ5A2.4 thru SZ5A200****500 mW and 800 mW
2.4 - 200 VOLTS
ZENER DIODES****AXIAL****ROUND TAB (SM)**

All dimensions are prior to soldering

**SQUARE TAB (SMS)**

All dimensions are prior to soldering

TYPICAL ZENER IMPEDANCE CURVE**PEAK PULSE POWER VS. PULSE WIDTH**

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

DATA SHEET #: Z00002A**RMD**

ELECTRICAL CHARACTERISTICS

PART NUMBER †		ELECTRICAL SPECIFICATIONS @ 25°C								MAXIMUM RATINGS	
		Nominal Zener Voltage (note 1)	Zener Test Current	Maximum Zener Impedance (note 2)		Maximum Reverse Leakage Current		Typical Temperature Coefficient		Maximum Continuous Current (note 3)	
VOLTAGE TOLERANCE		Vz @ IZT	IZT	Zz@IZT	Zzk@Izk	IR @ VR	VR		Tc @ IZT	IZM	
10%	5%	Volts	mA	Ω	Ω	μA	10%(A)	5%(B)	%/°C	mA	
SZ5A2.4	SZ5B2.4	2.4	20	30	1200	100	0.95	1	-0.085	198	
SZ5A2.5	SZ5B2.5	2.5	20	30	1250	100	0.95	1	-0.085	182	
SZ5A2.7	SZ5B2.7	2.7	20	30	1300	75	0.95	1	-0.080	168	
SZ5A2.8	SZ5B2.8	2.8	20	30	1400	75	0.95	1	-0.080	162	
SZ5A3	SZ5B3	3	20	29	1600	50	0.95	1	-0.075	152	
SZ5A3.3	SZ5B3.3	3.3	20	28	1600	25	0.95	1	-0.070	138	
SZ5A3.6	SZ5B3.6	3.6	20	24	1700	15	0.95	1	-0.065	126	
SZ5A3.9	SZ5B3.9	3.9	20	23	1900	10	0.95	1	-0.060	117	
SZ5A4.3	SZ5B4.3	4.3	20	22	2000	5	0.95	1	+0.055	106	
SZ5A4.7	SZ5B4.7	4.7	20	19	1900	5	1.9	2	+0.030	97	
SZ5A5.1	SZ5B5.1	5.1	20	17	1600	5	1.9	2	+0.030	89	
SZ5A5.6	SZ5B5.6	5.6	20	11	1600	5	2.9	3	+0.038	81	
SZ5A6	SZ5B6	6.0	20	7	1600	5	3.3	3.5	+0.038	76	
SZ5A6.2	SZ5B6.2	6.2	20	7	1000	5	3.8	4	+0.045	73	
SZ5A6.8	SZ5B6.8	6.8	20	5	750	3	4.8	5	+0.050	67	
SZ5A7.5	SZ5B7.5	7.5	20	6	500	3	5.7	6	+0.058	61	
SZ5A8.2	SZ5B8.2	8.2	20	8	500	3	6.2	6.5	+0.062	55	
SZ5A8.7	SZ5B8.7	8.7	20	8	600	3	6.2	6.5	+0.065	52	
SZ5A9.1	SZ5B9.1	9.1	20	10	600	3	6.7	7	+0.068	50	
SZ5A10	SZ5B10	10	20	17	600	3	7.6	8	+0.075	45	
SZ5A11	SZ5B11	11	20	22	600	2	8	8.4	+0.076	41	
SZ5A12	SZ5B12	12	20	30	600	1	8.7	9.1	+0.077	38	
SZ5A13	SZ5B13	13	9.5	13	600	0.5	9.4	9.9	+0.079	35	
SZ5A14	SZ5B14	14	9.0	15	600	0.1	9.5	10	+0.082	32	
SZ5A15	SZ5B15	15	8.5	16	600	0.1	10.5	11	+0.082	30	
SZ5A16	SZ5B16	16	7.8	17	600	0.1	11.4	12	+0.083	28	
SZ5A17	SZ5B17	17	7.4	19	600	0.1	12.4	13	+0.084	27	
SZ5A18	SZ5B18	18	7.0	21	600	0.1	13.3	14	+0.085	25	
SZ5A19	SZ5B19	19	6.6	23	600	0.1	13.3	14	+0.086	24	
SZ5A20	SZ5B20	20	6.2	25	600	0.1	14.3	15	+0.086	23	
SZ5A22	SZ5B22	22	5.6	29	600	0.1	16.2	17	+0.087	21	
SZ5A24	SZ5B24	24	5.2	33	600	0.1	17.1	18	+0.088	19	
SZ5A25	SZ5B25	25	5	35	600	0.1	18.1	19	+0.089	18	
SZ5A27	SZ5B27	27	4.6	41	600	0.1	20	21	+0.090	17	
SZ5A28	SZ5B28	28	4.5	44	600	0.1	20	21	+0.091	16	
SZ5A30	SZ5B30	30	4.2	49	600	0.1	22	23	+0.091	15	
SZ5A33	SZ5B33	33	3.8	58	700	0.1	24	25	+0.092	14	
SZ5A36	SZ5B36	36	3.4	70	700	0.1	26	27	+0.093	13	
SZ5A39	SZ5B39	39	3.2	80	800	0.1	29	30	+0.094	12	
SZ5A43	SZ5B43	43	3	93	900	0.1	31	33	+0.095	10.6	
SZ5A47	SZ5B47	47	2.7	105	1000	0.1	34	36	+0.095	9.7	
SZ5A51	SZ5B51	51	2.5	125	1100	0.1	37	39	+0.096	8.9	
SZ5A56	SZ5B56	56	2.2	150	1300	0.1	41	43	+0.096	8.1	
SZ5A60	SZ5B60	60	2.1	170	1400	0.1	44	46	+0.097	7.6	
SZ5A62	SZ5B62	62	2	185	1400	0.1	45	47	+0.097	7.3	
SZ5A68	SZ5B68	68	1.8	230	1600	0.1	49	52	+0.097	6.7	
SZ5A75	SZ5B75	75	1.7	270	1700	0.1	53	56	+0.098	6.1	
SZ5A82	SZ5B82	82	1.5	330	2000	0.1	59	62	+0.098	5.5	
SZ5A87	SZ5B87	87	1.4	370	2200	0.1	65	68	+0.099	5.2	
SZ5A91	SZ5B91	91	1.4	400	2300	0.1	66	69	+0.099	5.0	
SZ5A100	SZ5B100	100	1.3	500	2600	0.1	72	76	+0.110	4.5	
SZ5A110	SZ5B110	110	1.1	750	3000	0.1	80	84	+0.110	4.1	
SZ5A120	SZ5B120	120	1	900	4000	0.1	86	91	+0.110	3.8	
SZ5A130	SZ5B130	130	0.95	1100	4500	0.1	94	99	+0.110	3.5	
SZ5A140	SZ5B140	140	0.9	1300	4500	0.1	101	106	+0.110	3.2	
SZ5A150	SZ5B150	150	0.85	1500	5000	0.1	108	114	+0.110	3.0	
SZ5A160	SZ5B160	160	0.8	1700	5500	0.1	116	122	+0.110	2.8	
SZ5A170	SZ5B170	170	0.74	1900	5500	0.1	116	129	+0.110	2.7	
SZ5A180	SZ5B180	180	0.68	2200	6000	0.1	130	137	+0.110	2.5	
SZ5A190	SZ5B190	190	0.66	2400	6500	0.1	137	144	+0.110	2.4	
SZ5A200	SZ5B200	200	0.65	2500	7000	0.1	144	152	+0.110	2.2	

NOTES: For optional high reliability screening or higher nominal zener voltages, consult SSDI MARKETING Department.

† 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 times 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 (lead units). Multiply by 1.5 for SM and SMS devices.

4) SSDI standard marking consists of a contrasting color cathode dot or band. Part number information is included on packaging labels.