



# 1N5913B THRU 1N5956B

## 1.5W SILICON ZENER DIODE



**VOLTAGE RANGE**  
3.3 to 200 Volts

### FEATURES

- \* Zener voltage 3.3V to 200V
- \* Withstands large surge stresses

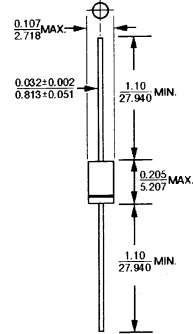
### MECHANICAL CHARACTERISTICS

- \* CASE: DO-41 molded plastic.
- \* FINISH: Corrosion resistant. Leads are solderable.
- \* THERMAL RESISTANCE: 60°C/W junction to lead at 0.375 inches from body.
- \* POLARITY: Banded end is cathode.
- \* WEIGHT: 0.4 grams (Typical).

### MAXIMUM RATINGS

Junction and Storage Temperature: -55°C to +175°C  
 DC Power Dissipation: 1.5 Watt  
 12mW/°C above 75°C  
 Forward Voltage @ 200mA: 1.2 Volts

### DO-41



All dimensions in  $\frac{\text{inches}}{\text{mm}}$

### \* ELECTRICAL CHARACTERISTICS @ T<sub>L</sub> 30°C

JEDEC TYPE NUMBER (Note 1)	ZENER VOLTAGE (V <sub>Z</sub> )	TEST CURRENT I <sub>ZT</sub>	DYNAMIC IMPEDANCE Z <sub>1T</sub>	KNEE CURRENT I <sub>ZK</sub>	KNEE IMPEDANCE Z <sub>1K</sub>	REVERSE CURRENT I <sub>R</sub> (MAX)	REVERSE VOLTAGE V <sub>R</sub>	MAX. DC CURRENT (I <sub>ZM</sub> )
	VOLTS	mA	Ω	mA	Ω	μA <sub>dc</sub>	VOLTS	mA
1N5913	3.3	113.6	10	1.0	500	100	1.0	454
1N5914	3.6	104.2	9.0	1.0	500	75	1.0	416
1N5915	3.9	96.1	7.5	1.0	500	25	1.0	384
1N5916	4.3	87.2	6.0	1.0	500	5.0	1.0	348
1N5917	4.7	79.8	5.0	1.0	500	5.0	1.5	319
1N5918	5.1	73.5	4.0	1.0	350	5.0	2.0	294
1N5919	5.6	66.9	2.0	1.0	250	5.0	3.0	267
1N5920	6.2	60.5	2.0	1.0	200	5.0	4.0	241
1N5921	6.8	55.1	2.5	1.0	200	5.0	5.2	220
1N5922	7.5	50	3.0	0.5	400	5.0	6.0	200
1N5923	8.2	45.7	3.5	0.5	400	5.0	6.5	182
1N5924	9.1	41.2	4.0	0.5	500	5.0	7.0	164
1N5925	10	37.5	4.5	0.25	500	5.0	8.0	150
1N5926	11	34.1	5.5	0.25	550	1.0	8.4	136
1N5927	12	31.2	6.5	0.25	550	1.0	9.1	125
1N5928	13	28.8	7.0	0.25	550	1.0	9.9	115
1N5929	15	25	9.0	0.25	600	1.0	11.4	100
1N5930	16	23.4	10	0.25	600	1.0	12.2	93
1N5931	18	20.8	12	0.25	650	1.0	13.7	83
1N5932	20	18.7	14	0.25	650	1.0	15.2	75
1N5933	22	17	17.5	0.25	650	1.0	16.7	68
1N5934	24	15.6	19	0.25	700	1.0	18.2	62
1N5935	27	13.9	23	0.25	700	1.0	20.6	55
1N5936	30	12.5	26	0.25	750	1.0	22.8	50
1N5937	33	11.4	33	0.25	800	1.0	25.1	45
1N5938	36	10.4	38	0.25	850	1.0	27.4	41
1N5939	39	9.6	45	0.25	900	1.0	29.7	38
1N5940	43	8.7	53	0.25	950	1.0	32.7	34
1N5941	47	8.0	67	0.25	1000	1.0	35.8	31
1N5942	51	7.3	70	0.25	1100	1.0	38.8	29
1N5943	56	6.7	86	0.25	1300	1.0	42.6	26
1N5944	62	6.0	100	0.25	1500	1.0	47.1	24
1N5945	68	5.5	120	0.25	1700	1.0	51.2	22
1N5946	75	5.0	140	0.25	2000	1.0	56	20
1N5947	82	4.6	160	0.25	2500	1.0	62.2	18
1N5948	91	4.1	200	0.25	3000	1.0	69.2	16
1N5949	100	3.7	250	0.25	3100	1.0	76	15
1N5950	110	3.4	300	0.25	4000	1.0	83.6	13
1N5951	120	3.1	390	0.25	4500	1.0	91.2	12
1N5952	130	2.9	450	0.25	5000	1.0	98.8	11
1N5953	150	2.5	600	0.25	6000	1.0	114	10
1N5954	160	2.3	700	0.25	6500	1.0	121.6	9.0
1N5955	180	2.1	900	0.25	7000	1.0	136.8	8.0
1N5956	200	1.9	1200	0.25	8000	1.0	152	7.0

**NOTE 1** No suffix indicates a ± 20% tolerance on nominal V<sub>Z</sub>. Suffix A denotes a ± 10% tolerance, B denotes a ± 5% tolerance, C denotes a ± 2% tolerance, and D denotes a ± 1% tolerance.

**NOTE 2** Zener voltage (V<sub>Z</sub>) is measured at T<sub>L</sub> = 30°C. Voltage measurement be performed 90 seconds after application of DC current.

**NOTE 3** The zener impedance is derived from the 60 Hz ac voltage, which results when an ac current having an rms value equal to 10% of the DC zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>.

\* JEDEC Registered Data

## RATING AND CHARACTERISTIC CURVES (1N5913B THRU 1N5956B)

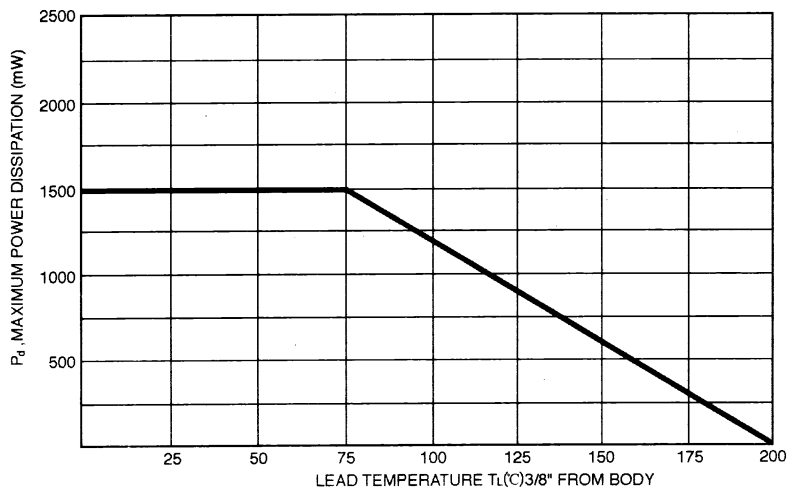


FIGURE 1 POWER DERATING CURVE

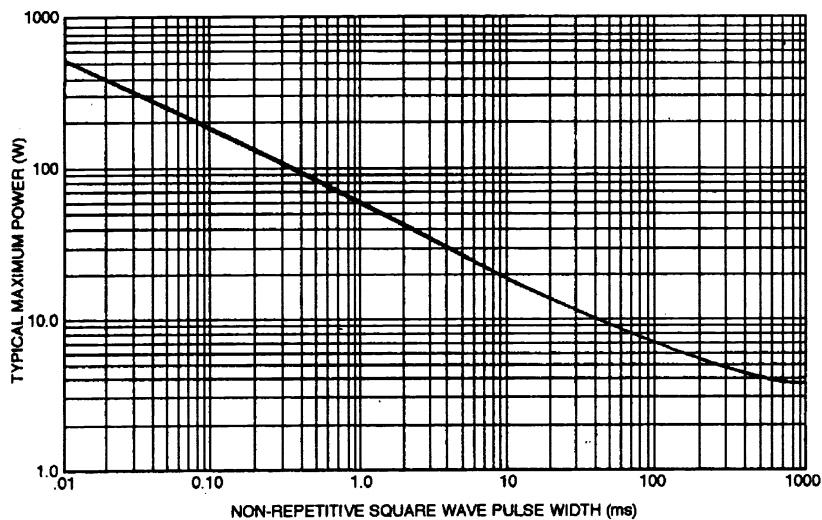


FIGURE 2 TRANSIENT SURGE CAPABILITY