



american
power devices, inc.

1N5987A-1N6025A

Standard tolerances are 10%
20%, 2% & 1% are available

500 mW industrial/commercial silicon zener diodes

FEATURES

- Zener voltage 3.0 to 110 Volts
- Hermetically sealed glass package
- APD can select any voltage in tolerances 1%, 2%, 5% and 10% at your application's test current.

MAXIMUM RATINGS

- Junction Temperature: -55°C to +200°C
- Storage Temperature: -55°C to +200°C
- DC Power Dissipation: 500mW @ $T_L < 50^\circ\text{C}$
- Derate above 50°C: 3.33mW/°C
- Forward Voltage @ 100mA: 1.5 Volts max.

ELECTRICAL CHARACTERISTICS @ $T_L = 30^\circ\text{C}$

Type Number (Note 1)	Nominal Zener Voltage $V_Z @ I_ZT$ Volts	Test Current I_ZT mA	Max. Zener Impedance (Note 4)				Max. Reverse Leakage Current				Max. DC Zener Current I_ZM (Note 2)
			$Z_{ZT} @ I_ZT$ Ohms		$Z_{ZK} @ I_{ZK} = 0.25$ mA		I_R μA		V_R volts		
			B Suffix	A, Non-Suffix	B Suffix	A, Non-Suffix	B Suffix	A, Non-Suffix	B Suffix	A, Non-Suffix	
1N5987A	3.0	5.0	95	100	2000	2300	50	100	1.0	0.5	157
1N5988A	3.3	5.0	95	100	2200	2400	25	75	1.0	0.5	152
1N5989A	3.6	5.0	90	95	2300	2500	15	50	1.0	0.5	139
1N5990A	3.9	5.0	90	95	2400	2500	10	25	1.0	1.0	128
1N5991A	4.3	5.0	88	90	2500	2500	5.0	15	1.0	1.0	116
1N5992A	4.7	5.0	70	90	2200	2500	3.0	10	1.5	1.0	106
1N5993A	5.1	5.0	50	88	2050	2500	2.0	5.0	2.0	1.0	98
1N5994A	5.6	5.0	25	70	1800	2200	2.0	3.0	3.0	1.5	89
1N5995A	6.2	5.0	10	50	1300	2050	1.0	2.0	4.0	2.0	81
1N5996A	6.8	5.0	8.0	25	750	1800	1.0	2.0	5.2	3.0	74
1N5997A	7.5	5.0	7.0	10	600	1300	0.5	1.0	6.0	4.0	67
1N5998A	8.2	5.0	7.0	15	600	750	0.5	1.0	6.5	5.2	61
1N5999A	9.1	5.0	10	18	600	600	0.1	0.5	7.0	6.0	55
1N6000A	10	5.0	15	22	600	600	0.1	0.5	8.0	6.5	50
1N6001A	11	5.0	18	25	600	600	0.1	0.1	8.4	7.0	45
1N6002A	12	5.0	22	32	600	600	0.1	0.1	9.1	8.0	42
1N6003A	13	5.0	25	36	600	600	0.1	0.1	9.9	8.4	38
1N6004A	15	5.0	32	42	600	600	0.1	0.1	11	9.1	33
1N6005A	16	5.0	36	48	600	600	0.1	0.1	12	9.9	31
1N6006A	18	5.0	42	55	600	600	0.1	0.1	14	11	28
1N6007A	20	5.0	48	62	600	600	0.1	0.1	15	12	25
1N6008A	22	5.0	55	70	600	600	0.1	0.1	17	14	23
1N6009A	24	5.0	62	78	600	600	0.1	0.1	18	15	21
1N6010A	27	5.0	70	88	600	700	0.1	0.1	21	17	19
1N6011A	30	5.0	78	95	600	700	0.1	0.1	23	18	17
1N6012A	33	5.0	88	110	700	800	0.1	0.1	25	21	15
1N6013A	36	5.0	95	130	700	900	0.1	0.1	27	23	14
1N6014A	39	2.0	130	170	800	1000	0.1	0.1	30	25	13
1N6015A	43	2.0	150	180	900	1100	0.1	0.1	33	27	12
1N6016A	47	2.0	170	200	1000	1300	0.1	0.1	36	30	11
1N6017A	51	2.0	180	225	1300	1400	0.1	0.1	39	33	9.8
1N6018A	56	2.0	200	240	1400	1600	0.1	0.1	43	36	8.9
1N6019A	62	2.0	225	265	1400	1700	0.1	0.1	47	39	8.0
1N6020A	68	2.0	240	280	1600	2000	0.1	0.1	52	43	7.4
1N6021A	75	2.0	265	300	1700	2300	0.1	0.1	56	47	6.7
1N6022A	82	2.0	280	350	2000	2600	0.1	0.1	62	52	6.1
1N6023A	91	2.0	300	400	2300	3000	0.1	0.1	69	56	5.5
1N6024A	100	1.0	500	800	2600	4000	0.1	0.1	76	62	5.0
1N6025A	110	1.0	650	950	3000	4500	0.1	0.1	84	69	4.5

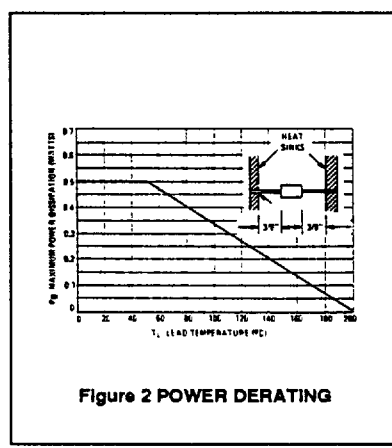
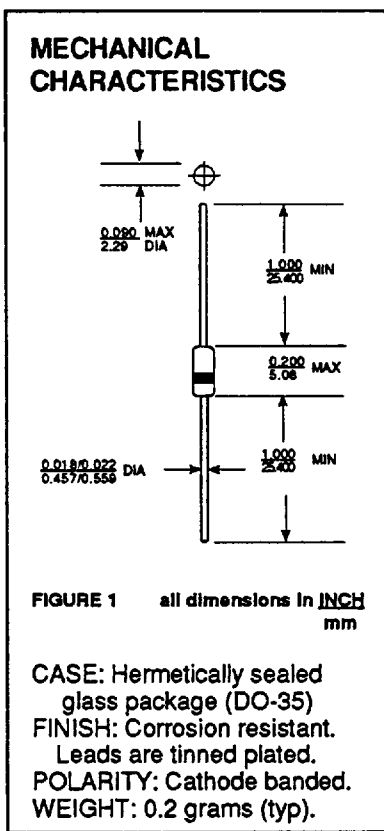
*Indicates JEDEC Registered Data

Note 1 The JEDEC type numbers shown with an A suffix have $\pm 10\%$ tolerance on nominal V_Z . Suffix B denotes a $\pm 5\%$ tolerance. Suffix C denotes a $\pm 2\%$ and D denotes $\pm 1\%$.

Note 2 This data was calculated using nominal voltages. In order to calculate the worst case maximum current capability use the following formula:

$$I_{zm}(\text{worst case}) = \frac{500\text{mW}}{V_Z(\text{nom}) + \text{tolerance}}$$

Note 3 Z_{ZT} and Z_{ZK} are measured by dividing the ac voltage drop across the diode by the ac current applied. The specified limits are for $I_Z(\text{ac}) = 0.1 I_Z(\text{dc})$ with the ac frequency = 1.0kHz.





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TYPICAL CHARACTERISTICS

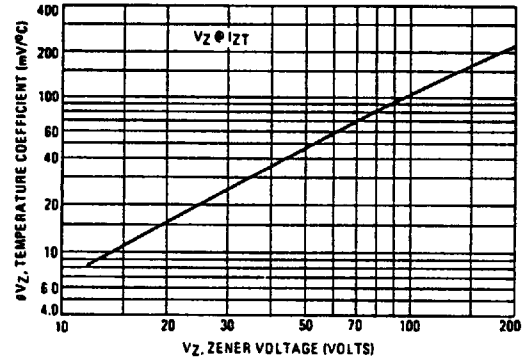
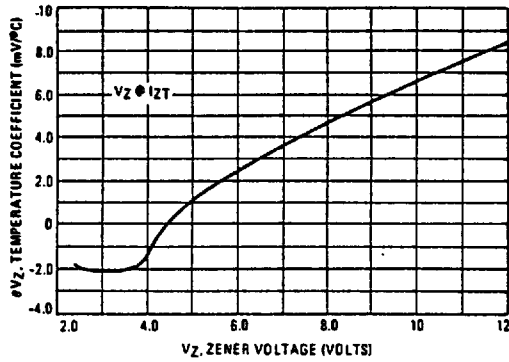


Figure 3 TEMPERATURE COEFFICIENTS (-55°C to +150°C)

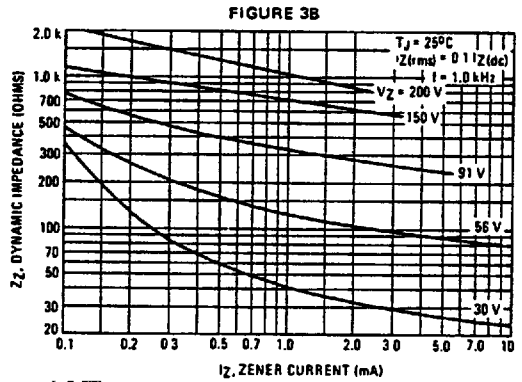
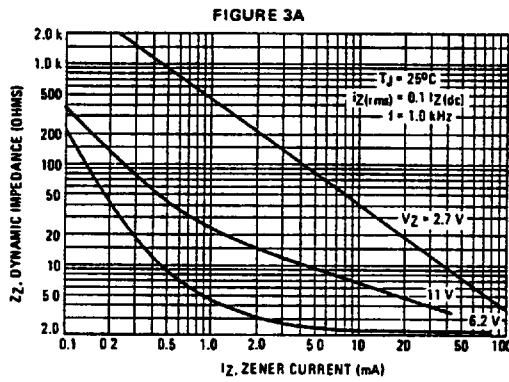


Figure 4 ZENER CURRENT vs ZENER IMPEDANCE

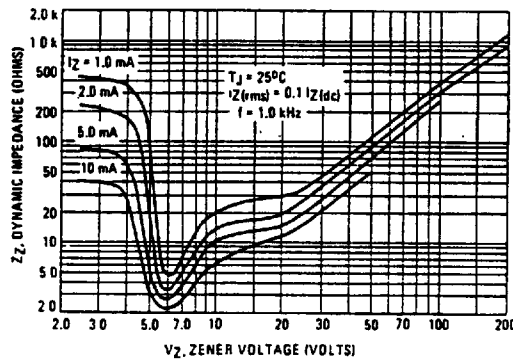


Figure 5 ZENER VOLTAGE vs ZENER IMPEDANCE