

1N5988 THRU 1N6016

Features

- Popular DO-35 Package---Small and Rugged
- Double Slug Construction
- Constructed with an Oxide Passivated All Diffused Die

**500 mW
Zener Diode
3.3 to 47 Volts**

Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- DC Power Dissipation: 500mW
- Derate above 50°C: 3.33mW/°C
- Forward voltage @ 100mA: 1.5V

Figure 1 Capacitance vs. Vz Curve

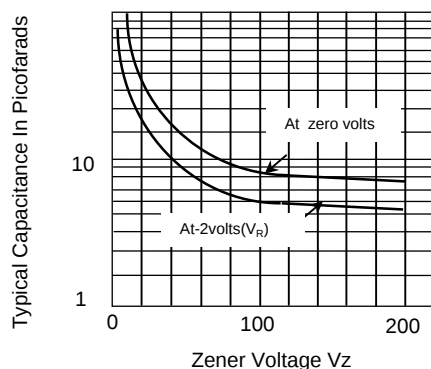
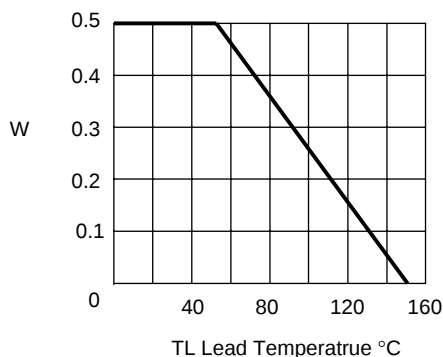
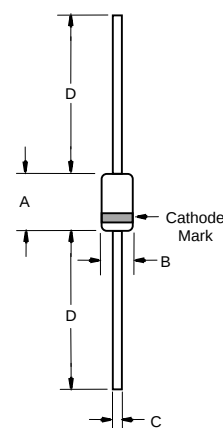


Figure 2 - Derating Curve



DO-35



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	---	.175	---	4.2	
B	---	.079	---	2.00	
C	---	.020	---	.52	
D	1.000	---	25.40	---	

ELECTRICAL CHARACTERISTICS @25°C

MCC PART NUMBER	NOMINAL ZENER VOLTAGE V _Z @ I _{ZT}	TEST CURRENT I _{ZT}	MAXIMUM ZENER IMPEDANCE Z _{ZK} @ I _{ZK} = 0.25mA				MAXIMUM REVERSE LEAKAGE CURRENT I _R @ V _R				Max. DC Zener Current I _{ZM} (Note 3)	Typical Temp. Coef. of Zener Voltage α _{VZ} % / °C
			Ω		Ω		μA		VOLTS			
			B Suffix	A Suffix	B Suffix	A Suffix	B Suffix	A Suffix	B Suffix	A Suffix		
	VOLTS	mA										
1N5988	3.3	5.0	95	100	2200	2400	25	75	1.0	0.5	152	-0.06
1N5989	3.6	5.0	90	95	2300	2500	15	50	1.0	0.5	139	-0.055
1N5990	3.9	5.0	90	95	2400	2500	10	25	1.0	1.0	128	-0.045
1N5991	4.3	5.0	88	90	2500	2500	5.0	15	1.0	1.0	116	-0.01
1N5992	4.7	5.0	70	90	2200	2500	3.0	10	1.5	1.0	106	+0.01
1N5993	5.1	5.0	50	88	2050	2500	2.0	5.0	2.0	1.0	98	+0.025
1N5994	5.6	5.0	25	70	1800	2200	2.0	3.0	3.0	1.5	89	+0.035
1N5995	6.2	5.0	10	50	1300	2050	1.0	2.0	4.0	2.0	81	+0.04
1N5996	6.8	5.0	8.0	25	750	1800	1.0	2.0	5.2	3.0	74	+0.044
1N5997	7.5	5.0	7.0	10	600	1300	0.5	1.0	6.0	4.0	67	+0.051
1N5998	8.2	5.0	7.0	15	600	750	0.5	1.0	6.5	5.2	61	+0.055
1N5999	9.1	5.0	10	18	600	600	0.1	0.5	7.0	6.0	55	+0.061
1N6000	10	5.0	15	22	600	600	0.1	0.5	8.0	6.5	50	+0.065
1N6001	11	5.0	18	25	600	600	0.1	0.1	8.4	7.0	45	+0.068
1N6002	12	5.0	22	32	600	600	0.1	0.1	9.1	8.0	42	+0.073
1N6003	13	5.0	25	36	600	600	0.1	0.1	9.9	8.4	38	+0.075
1N6004	15	5.0	32	42	600	600	0.1	0.1	11	9.1	33	+0.079
1N6005	16	5.0	36	48	600	600	0.1	0.1	12	9.9	31	+0.080
1N6006	18	5.0	42	55	600	600	0.1	0.1	14	11	28	+0.083
1N6007	20	5.0	48	62	600	600	0.1	0.1	15	12	25	+0.085
1N6008	22	5.0	55	70	600	600	0.1	0.1	17	14	23	+0.087
1N6009	24	5.0	62	78	600	600	0.1	0.1	18	15	21	+0.090
1N6010	27	5.0	70	88	600	700	0.1	0.1	21	17	19	+0.091
1N6011	30	5.0	78	95	600	700	0.1	0.1	23	18	17	+0.093
1N6012	33	5.0	88	110	700	800	0.1	0.1	25	21	15	+0.094
1N6013	36	5.0	95	130	700	900	0.1	0.1	27	23	14	+0.094
1N6014	39	2.0	130	170	800	1000	0.1	0.1	30	25	13	+0.095
1N6015	43	2.0	150	180	900	1100	0.1	0.1	33	27	12	+0.095
1N6016	47	2.0	170	200	1000	1300	0.1	0.1	36	30	11	+0.096

Note 1.

Zener impedance is derived from the 1KHz AC voltage which results when an AC current having an rms value equal to 10%

of DC zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK} .

Note 2.

Voltage measurements to be performed 20 seconds after application of the DC test current.

Note 3.

The maximum zener current I_{zm} shown is for the nominal voltages. The following formula can be used to determine the worst

case current for any tolerance device.

$$I_{zm} = P / V_{zm}$$

Where V_{zm} is the high end of the voltage tolerance specified and P is the rated power of the device.

Note 4.

The type number listed indicates a 20% tolerance. For 10% tolerance and suffix A; for 5% tolerance, add suffix B; for 2% tolerance add suffix C; for 1% tolerance, add suffix D.