Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

1N5988 THRU 1N6016

500 mW Zener Diode 3.3 to 47 Volts

Features

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

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

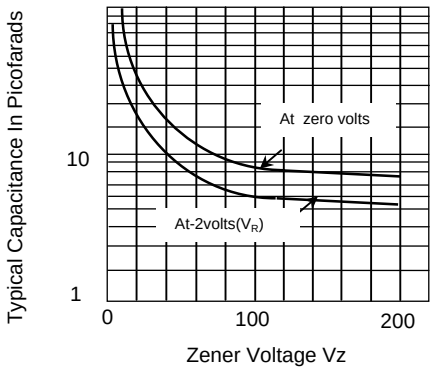
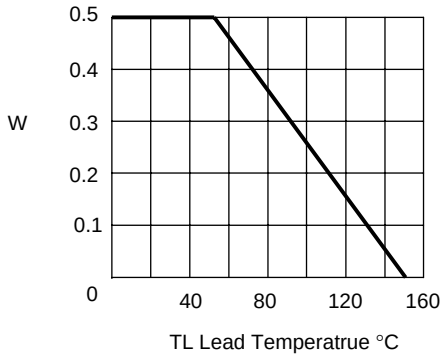
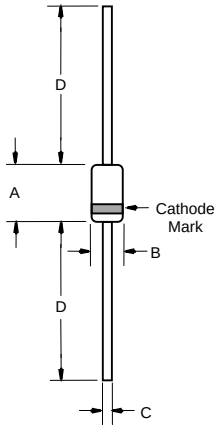


Figure 2 - Derating Curve



DO-35



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

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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}	Typical Temp. Coef. of Zener Voltage α_{VZ}
			Ω		Ω		μA		VOLTS			
	VOLTS	mA	B Suffix	A Suffix	B Suffix	A Suffix	B Suffix	A Suffix	B Suffix	A Suffix	(Note 3)	% / °C
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 Izm shown is for the nominal voltages. The following formula can be used to determine the worst

case current for any tolerance device.

$$Izm = P / Vzm$$

Where Vzm 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.