

DIGITRON SEMICONDUCTORS

1N5333B-1N5388B 5 WATT ZENER DIODES

MAXIMUM RATINGS

Rating	Value
Operating Temperature	-65 to +150°C
Storage Temperature	-65 to +150°C
DC Power Dissipation	5 Watts
Power Derating	40mW/°C over 75°C
Forward Voltage @ 1.0 amp	1.2 Volts max
Steady state power $T_L \leq 25^\circ\text{C}$ 3/8" from body $T_A = 25^\circ\text{C}$	5 W 1.47W
Thermal resistance	25°C/W
Solder temperature	260°C for 10 seconds maximum

ELECTRICAL CHARACTERISTICS

Type	Nominal Zener Voltage $V_Z @ I_{ZT}$ Volts	Zener Test Current I_{ZT} mA	Maximum Zener Impedance $Z_{ZT} @ I_{ZT}$ Ohms	A,B,C Maximum Knee Impedance $Z_{ZK} @ 1.0$ mA Ohms	Maximum Reverse Leakage Current $I_R @ V_R$ μA	Maximum Reverse Leakage Current Non & A Suffix Volts V_R	Maximum Reverse Leakage Current B,C,D Suffix Volts V_R	Maximum Regulation Voltage rV_Z Volts	B,C,D Maximum Zener Current I_{ZM} mA	Maximum Surge Current I_{ZSM} mA
1N5333B	3.3	380	3.0	400	300	1.0	1.0	0.85	1400	20.0
1N5334B	3.6	350	2.5	500	150	1.0	1.0	0.80	1320	18.7
1N5335B	3.9	320	2.0	500	50	1.0	1.0	0.54	1220	17.6
1N5336B	4.3	290	2.0	500	10	1.0	1.0	0.49	1100	16.4
1N5337B	4.7	260	2.0	450	5.0	1.0	1.0	0.44	1010	15.3
1N5338B	5.1	240	1.5	400	1.0	1.0	1.0	0.39	930	14.4
1N5339B	5.6	220	1.0	400	1.0	2.0	2.0	0.25	865	13.4
1N5340B	6.0	200	1.0	300	1.0	3.0	3.0	0.19	790	12.7
1N5341B	6.2	200	1.0	200	1.0	3.0	3.0	0.10	765	12.4
1N5342B	6.8	175	1.0	200	10	4.9	5.2	0.15	700	11.5
1N5343B	7.5	175	1.5	200	10	5.4	5.7	0.15	630	10.7
1N5344B	8.2	150	1.5	200	10	5.9	6.2	0.20	580	10.0
1N5345B	8.7	150	2.0	200	10	6.3	6.6	0.20	545	9.5
1N5346B	9.1	150	2.0	150	7.5	6.6	6.9	0.22	520	9.2
1N5347B	10	125	2.0	125	5.0	7.2	7.6	0.22	475	8.6
1N5348B	11	125	2.5	125	5.0	8.0	8.4	0.25	430	8.0
1N5349B	12	100	2.5	125	2.0	8.6	9.1	0.25	395	7.5
1N5350B	13	100	2.5	100	1.0	9.4	9.9	0.25	365	7.0
1N5351B	14	100	2.5	75	1.0	10.1	10.6	0.25	340	6.7
1N5352B	15	75	2.5	75	1.0	10.8	11.5	0.25	315	6.3
1N5353B	16	75	2.5	75	1.0	11.5	12.2	0.30	295	6.0
1N5354B	17	70	2.5	75	0.5	12.2	12.9	0.35	280	5.8
1N5355B	18	70	2.5	75	0.5	13.0	13.7	0.40	264	5.5
1N5356B	19	70	3.0	75	0.5	13.7	14.4	0.40	250	5.3
1N5357B	20	65	3.0	75	0.5	14.4	15.2	0.40	237	5.1
1N5358B	22	50	3.5	75	0.5	15.8	16.7	0.45	216	4.7
1N5359B	24	50	3.5	100	0.5	17.3	18.2	0.55	198	4.4
1N5360B	25	50	4.0	110	0.5	18.0	19.0	0.55	190	4.3
1N5361B	27	50	5.0	120	0.5	19.4	20.6	0.60	176	4.1
1N5362B	28	50	6.0	130	0.5	20.1	21.2	0.60	170	3.9
1N5363B	30	40	8.0	140	0.5	21.6	22.8	0.60	158	3.7

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5 WATT ZENER DIODES

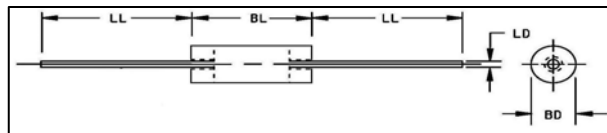
ELECTRICAL CHARACTERISTICS

Type	Nominal Zener Voltage $V_Z @ I_{ZT}$ Volts	Zener Test Current I_{ZT} mA	Maximum Zener Impedance $Z_{ZT} @ I_{ZT}$ Ohms	A,B,C Maximum Knee Impedance $Z_{ZK} @ 1.0$ mA Ohms	Maximum Reverse Leakage Current $I_R @ V_R$ μA	Maximum Reverse Leakage Current Non & A Suffix Volts V_R	Maximum Reverse Leakage Current B,C,D Suffix Volts V_R	Maximum Regulation Voltage rV_Z Volts	B,C,D Maximum Zener Current I_{ZM} mA	Maximum Surge Current I_{ZSM} mA
1N5364B	33	40	10	150	0.5	23.8	25.1	0.60	144	3.5
1N5365B	36	30	11	160	0.5	25.9	27.4	0.65	132	3.3
1N5366B	39	30	14	170	0.5	28.1	29.7	0.65	122	3.1
1N5367B	43	30	20	180	0.5	31.0	32.7	0.70	110	2.8
1N5368B	47	25	25	210	0.5	33.8	35.8	0.80	100	2.7
1N5369B	51	25	27	230	0.5	36.7	38.8	0.90	93	2.5
1N5370B	56	20	35	280	0.5	40.3	42.6	1.00	86	2.3
1N5371B	60	20	40	350	0.5	43.0	45.5	1.20	79	2.2
1N5372B	62	20	42	400	0.5	44.6	47.1	1.35	76	2.1
1N5373B	68	20	44	500	0.5	49.0	51.7	1.50	70	2.0
1N5374B	75	20	45	620	0.5	54.0	56.0	1.60	63	1.9
1N5375B	82	15	65	720	0.5	59.0	62.2	1.80	58	1.8
1N5376B	87	15	75	760	0.5	63.0	66.0	2.00	54.5	1.7
1N5377B	91	15	75	760	0.5	63.5	69.2	2.20	52.5	1.6
1N5378B	100	12	90	800	0.5	72.0	76.0	2.30	47.5	1.5
1N5379B	110	12	125	1000	0.5	79.2	83.6	2.50	43.0	1.4
1N5380B	120	10	170	1150	0.5	84.6	91.2	2.50	39.5	1.3
1N5381B	130	10	190	1250	0.5	93.6	98.8	2.50	36.6	1.2
1N5382B	140	8	230	1500	0.5	101	106	2.50	34.0	1.2
1N5383B	150	8	330	1500	0.5	108	114	3.00	31.6	1.1
1N5384B	160	8	350	1650	0.5	115	122	3.00	29.4	1.1
1N5385B	170	8	380	1750	0.5	122	129	3.00	28.0	1.0
1N5386B	180	5	430	1750	0.5	130	137	4.00	26.4	1.0
1N5387B	190	5	450	1850	0.5	137	144	5.00	25.0	0.9
1N5388B	200	5	480	1850	0.5	144	152	5.00	23.6	0.8

Tolerance designation – non suffix = $\pm 20\%$, A = $\pm 10\%$, B = $\pm 5\%$, C = $\pm 2\%$, D = $\pm 1\%$

MECHANICAL CHARACTERISTICS

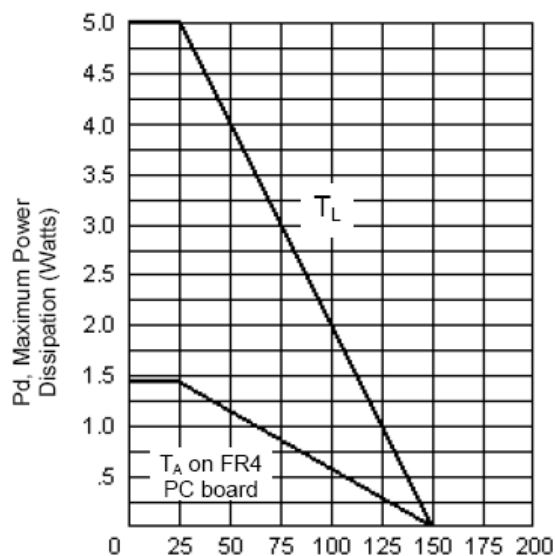
Case:	Plastic
Marking:	Alpha-Numeric, Body Painted
Polarity:	Cathode Band



	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.130	0.145	3.31	3.68
BL	0.330	0.350	8.390	8.890
LD	0.038	0.042	0.970	1.060
LL	1.000	-	25.400	-

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T_L , Lead temperature ($^{\circ}\text{C}$) 3/8" from body, or
 T_A ambient temperature on FR4 PC Board

FIGURE 1
Power Derating Curve

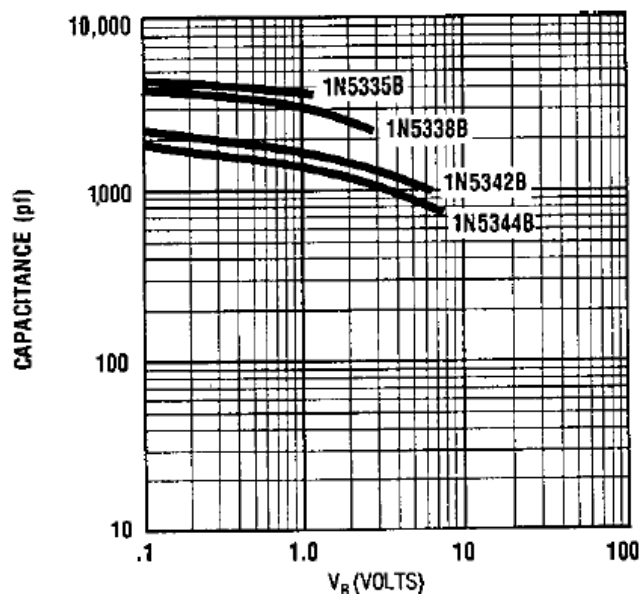


FIGURE 2
Typical Capacitance vs.
Reverse Voltage for 5 Watt Zeners

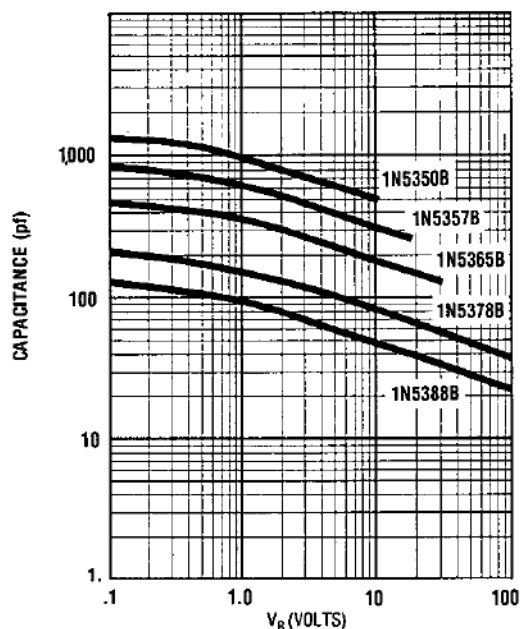


FIGURE 3
Typical Capacitance vs.
Reverse Voltage for 5 Watt Zeners

Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).

Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.