

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

1N5333B THRU 1N5388B

5.0 W ZENER DIODE  
3.3 VOLTS to 200 VOLTS  
5% TOLERANCE

AXIAL LEAD EPOXY CASE

## DESCRIPTION

The Central Semiconductor 1N5333B Series Silicon Zener Diode is a high quality voltage regulator for use in industrial, commercial, entertainment and computer applications.

## ABSOLUTE MAXIMUM RATINGS

Power Dissipation (@  $T_L = 75^\circ\text{C}$ )  
Operating and Storage Temperature  
Tolerance "B Suffix"

## SYMBOL

$P_D$  5.0  
 $T_J, T_{STG}$  -65 to +200  
 $\pm 5$

## UNIT

W  
 $^\circ\text{C}$   
%

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ ), $V_F = 1.2\text{V MAX @ } I_F = 1.0\text{ A FOR ALL TYPES.}$

TYPE	Zener Voltage	Test Current	Maximum Zener Impedance			Maximum Reverse Current		Maximum Surge Current (Note 1)	Maximum Voltage Regulation (Note 2)	Maximum Regulator Current
	$V_Z @ I_{ZT}$	$I_{ZT}$	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		$I_r$	$\Delta V_Z$	$I_{ZM}$
	Volts	mA	$\Omega$	$\Omega$	mA	$\mu\text{A}$	Volts	A	Volts	mA
1N5333B	3.3	380	3.0	400	1.0	300	1.0	20	0.85	1440
1N5334B	3.6	350	2.5	500	1.0	150	1.0	18.7	0.80	1320
1N5335B	3.9	320	2.0	500	1.0	50	1.0	17.6	0.54	1220
1N5336B	4.3	290	2.0	500	1.0	10	1.0	16.4	0.49	1100
1N5337B	4.7	260	2.0	450	1.0	5.0	1.0	15.3	0.44	1010
1N5338B	5.1	240	1.5	400	1.0	1.0	1.0	14.4	0.39	930
1N5339B	5.6	220	1.0	400	1.0	1.0	2.0	13.4	0.25	865
1N5340B	6.0	200	1.0	300	1.0	1.0	3.0	12.7	0.19	790
1N5341B	6.2	200	1.0	200	1.0	1.0	3.0	12.4	0.10	765
1N5342B	6.8	175	1.0	200	1.0	10	5.2	11.5	0.15	700
1N5343B	7.5	175	1.5	200	1.0	10	5.7	10.7	0.15	630
1N5344B	8.2	150	1.5	200	1.0	10	6.2	10.0	0.20	580
1N5345B	8.7	150	2.0	200	1.0	10	6.6	9.5	0.20	545
1N5346B	9.1	150	2.0	150	1.0	7.5	6.9	9.2	0.22	520
1N5347B	10	125	2.0	125	1.0	5.0	7.6	8.6	0.22	475
1N5348B	11	125	2.5	125	1.0	5.0	8.4	8.0	0.25	430
1N5349B	12	100	2.5	125	1.0	2.0	9.1	7.5	0.25	395
1N5350B	13	100	2.5	100	1.0	1.0	9.9	7.0	0.25	365
1N5351B	14	100	2.5	75	1.0	1.0	10.6	6.7	0.25	340
1N5352B	15	75	2.5	75	1.0	1.0	11.5	6.3	0.25	315
1N5353B	16	75	2.5	75	1.0	1.0	12.2	6.0	0.30	295
1N5354B	17	70	2.5	75	1.0	0.5	12.9	5.8	0.35	280
1N5355B	18	65	2.5	75	1.0	0.5	13.7	5.5	0.40	264
1N5356B	19	65	3.0	75	1.0	0.5	14.4	5.3	0.40	250
1N5357B	20	65	3.0	75	1.0	0.5	15.2	5.1	0.40	237
1N5358B	22	50	3.5	75	1.0	0.5	16.7	4.7	0.45	216
1N5359B	24	50	3.5	100	1.0	0.5	18.2	4.4	0.55	198
1N5360B	25	50	4.0	110	1.0	0.5	19.0	4.3	0.55	190
1N5361B	27	50	5.0	120	1.0	0.5	20.6	4.1	0.60	176
1N5362B	28	50	6.0	130	1.0	0.5	21.2	3.9	0.60	170
1N5363B	30	40	8.0	140	1.0	0.5	22.8	3.7	0.60	158

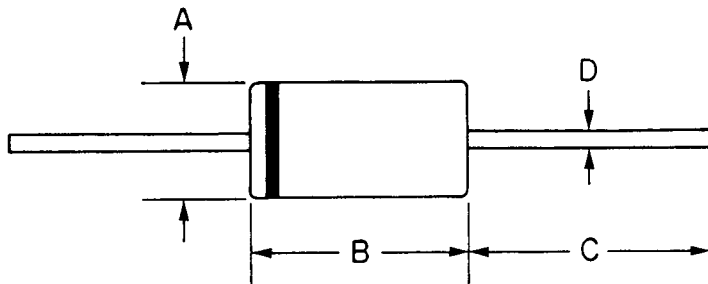
See reverse for notes and outline drawing.

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$ ),  $V_F = 1.2\text{V MAX @ } I_F = 1.0\text{ A}$  FOR ALL TYPES.

TYPE	Zener Voltage	Test Current	Maximum Zener Impedance			Maximum Reverse Current		Maximum Surge Current (Note 1)	Maximum Voltage Regulation (Note 2)	Maximum Regulator Current
	$V_Z@I_{ZT}$	$I_{ZT}$	$Z_{ZT}@I_{ZT}$	$Z_{ZK}@I_{ZK}$		$I_R@V_R$		$i_r$	$\Delta V_Z$	$I_{ZM}$
	Volts	mA	$\Omega$	$\Omega$	mA	$\mu\text{A}$	Volts	A	Volts	mA
1N5364B	33	40	10	150	1.0	0.5	25.1	3.5	0.65	144
1N5365B	36	30	11	160	1.0	0.5	27.4	3.3	0.65	132
1N5366B	39	30	14	170	1.0	0.5	29.7	3.1	0.65	122
1N5367B	43	30	20	190	1.0	0.5	32.7	2.8	0.70	110
1N5368B	47	25	25	210	1.0	0.5	35.8	2.7	0.80	100
1N5369B	51	25	27	230	1.0	0.5	38.8	2.5	0.90	93.0
1N5370B	56	20	35	280	1.0	0.5	42.6	2.3	1.00	86.0
1N5371B	60	20	40	350	1.0	0.5	45.5	2.2	1.20	79.0
1N5372B	62	20	42	400	1.0	0.5	47.1	2.1	1.35	76.0
1N5373B	68	20	44	500	1.0	0.5	51.7	2.0	1.50	70.0
1N5374B	75	20	45	620	1.0	0.5	56.0	1.9	1.60	63.0
1N5375B	82	15	65	720	1.0	0.5	62.2	1.8	1.80	58.0
1N5376B	87	15	75	760	1.0	0.5	66.0	1.7	2.00	54.5
1N5377B	91	15	75	760	1.0	0.5	69.2	1.6	2.20	52.5
1N5378B	100	12	90	800	1.0	0.5	76.0	1.5	2.50	47.5
1N5379B	110	12	125	1000	1.0	0.5	83.6	1.4	2.50	43.0
1N5380B	120	10	170	1150	1.0	0.5	91.2	1.3	2.50	39.5
1N5381B	130	10	190	1250	1.0	0.5	98.8	1.2	2.50	36.6
1N5382B	140	8.0	230	1500	1.0	0.5	106	1.2	2.50	34.0
1N5383B	150	8.0	330	1500	1.0	0.5	114	1.1	3.00	31.6
1N5384B	160	8.0	350	1650	1.0	0.5	122	1.1	3.00	29.4
1N5385B	170	8.0	380	1750	1.0	0.5	129	1.0	3.00	28.0
1N5386B	180	5.0	430	1750	1.0	0.5	137	1.0	4.00	26.4
1N5387B	190	5.0	450	1850	1.0	0.5	144	0.9	5.00	25.0
1N5388B	200	5.0	480	1850	1.0	0.5	152	0.9	5.00	23.6

**Note 1: Surge Current ( $i_r$ )**—Maximum allowable peak, non-recurrent square wave current ( $PW=8.3\text{ms}$ )

**Note 2: Voltage Regulation ( $\Delta V_Z$ )**— $V_Z$  Measurements are made at 10% and then at 50% of the  $I_Z$  max value listed in the electrical characteristics table. The test current time duration for each  $V_Z$  measurement is  $40 \pm 10\text{ ms}$ . ( $T_A = 25^\circ\text{C}$ )



	INCHES	MILLIMETERS
DIM		
A	0.145 MAX	3.68 MAX
B	0.350 MAX	8.89 MAX
C	1.0 MIN	25.4 MIN
D	0.043 MAX	1.09 MAX