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### **Product: Zener Diodes**

Zener diodes intended for voltage regulation purposes are sometimes used as a protection against transients.

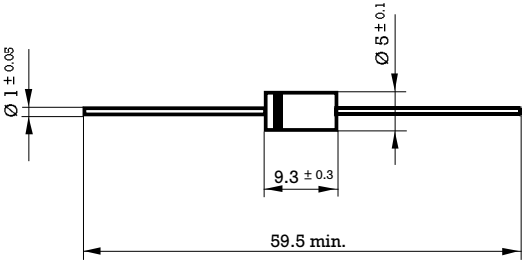

FAGOR ELECTRONICA's product range goes from 1W to 5W in Power and covers the range from 6V2 to 200V of zener voltage. The standard tolerance is  $\pm 5\%$ , although other possibilities could be considered under request.

Manufactured using HYPERRECTIFIER© Glass Passivated technology, we offer these devices housed either in leaded packages or SMD.

Product	Family	$V_Z(V)$	$P_Z(W)$	OUTLINE
<a href="#">1N5388B(200v)</a>	1N53B	200	5W	DO201-AE



## 5 W Glass Passivated Zener Diode

<p><b>Dimensions in mm.</b></p> <p style="text-align: right;"><b>DO-201AE (Plastic)</b></p>  <p><b>Mounting instructions</b></p> <ol style="list-style-type: none"> <li>1. Min. distance from body to soldering point, 4 mm.</li> <li>2. Max. solder temperature, 350°C.</li> <li>3. Max. soldering time, 3.5 sec.</li> <li>4. Do not bend lead at a point closer than 3 mm. to the body.</li> </ol>	<p><b>Voltage</b> 7.5 to 200 V</p> <p><b>Power</b> 5.0 W</p>  <p>Standard Voltage Tolerance is <math>\pm 5\%</math></p> <ul style="list-style-type: none"> <li>• <b>Glass passivated junction</b></li> <li>• The plastic material carries U/L recognition 94 V-0</li> <li>• Terminals: Axial Leads</li> <li>• Polarity: Color band denotes cathode</li> </ul>
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### Maximum Ratings, according to IEC publication No. 134

$P_{\text{tot}}$	Power dissipation at $T_{\text{amb}} = 75^\circ\text{C}$	5 W
$P_{\text{ZSM}}$	Non repetitive peak zener dissipation ( $t = 8.3 \text{ ms}$ )	180 W
$T_j$	Operating temperature range	$-55$ to $+175^\circ\text{C}$
$T_{\text{stg}}$	Storage temperature range	$-55$ to $+175^\circ\text{C}$

### Electrical Characteristics at $T_{\text{amb}} = 25^\circ\text{C}$

$V_F$	Max. forward voltage drop at $I_F = 3.0 \text{ A}$	1.2 V
$R_{\text{thj-a}}$	Max. thermal resistance at: 10 mm. lead length	$20^\circ\text{C/W}$

Type	Nominal (1) Zener Voltage $V_Z$ at $I_{ZT}$	Test Current $I_{ZT}$	Maximum Zener Impedance			Maximum Reverse Leakage Current		Max. Surge Current 8.3 ms. $I_{ZS}$	Maximum Regulator Current $I_{ZM}$	Max Voltage Regulation $\Delta V_Z$ Volts (2)
			$Z_{ZT}$ at $I_{ZT}$	$Z_{ZK}$ at $I_{ZK}$	$I_{ZK}$	$I_R$	@ $V_R$			
	(V)	(mA)	( )	( )	(mA)	( $\mu$ A)	(V)	(A)	(mA)	(V)
1N5343B	7.5	175	1.5	200	1	10	5.7	10.7	630	0.15
1N5344B	8.2	150	1.5	200	1	10.0	6.2	10	580	0.2
1N5345B	8.7	150	2.0	200	1	10.0	6.6	9.5	545	0.2
1N5346B	9.1	150	2.0	150	1	7.5	6.9	9.2	520	0.22
1N5347B	10	125	2.0	125	1	5.0	7.6	8.6	475	0.22
1N5348B	11	125	2.5	125	1	5.0	8.4	8.0	430	0.25
1N5349B	12	100	2.5	125	1	2.0	9.1	7.5	395	0.25
1N5350B	13	100	2.5	100	1	1.0	9.9	7.0	365	0.25
1N5351B	14	100	2.5	75	1	1.0	10.6	6.7	340	0.25
1N5352B	15	75	2.5	75	1	1.0	11.5	6.3	315	0.25
1N5353B	16	75	2.5	75	1	1.0	12.2	6.0	295	0.3
1N5354B	17	70	2.5	75	1	0.5	12.9	5.8	280	0.35
1N5355B	18	65	2.5	75	1	0.5	13.7	5.5	264	0.4
1N5356B	19	65	3.0	75	1	0.5	14.4	5.3	250	0.4
1N5357B	20	65	3.0	75	1	0.5	15.2	5.1	237	0.4
1N5358B	22	50	3.5	75	1	0.5	16.7	4.7	216	0.45
1N5359B	24	50	3.5	100	1	0.5	18.2	4.4	198	0.55
1N5360B	25	50	4.0	110	1	0.5	19.0	4.3	190	0.55
1N5361B	27	50	5.0	120	1	0.5	20.6	4.1	176	0.6
1N5362B	28	50	6.0	130	1	0.5	21.2	3.9	170	0.6
1N5363B	30	40	8.0	140	1	0.5	22.8	3.7	158	0.6
1N5364B	33	40	10.0	150	1	0.5	25.1	3.5	144	0.6
1N5365B	36	30	11.0	160	1	0.5	27.4	3.3	132	0.65
1N5366B	39	30	14.0	170	1	0.5	29.7	3.1	122	0.65
1N5367B	43	30	20.0	190	1	0.5	32.7	2.8	110	0.7
1N5368B	47	25	25.0	210	1	0.5	35.8	2.7	100	0.8
1N5369B	51	25	27.0	230	1	0.5	38.8	2.5	93	0.9
1N5370B	56	20	35.0	280	1	0.5	42.6	2.3	86	1
1N5371B	60	20	40.0	350	1	0.5	45.5	2.2	79	1.2
1N5372B	62	20	42.0	400	1	0.5	47.1	2.1	76	1.35
1N5373B	68	20	44.0	500	1	0.5	51.7	2.0	70	1.5
1N5374B	75	20	45.0	620	1	0.5	56.0	1.9	63	1.6
1N5375B	82	15	65.0	720	1	0.5	62.2	1.8	58	1.8
1N5376B	87	15	75.0	760	1	0.5	66.0	1.7	54.5	2
1N5377B	91	15	75.0	760	1	0.5	69.2	1.6	52.5	2.2
1N5378B	100	12	90.0	800	1	0.5	76.0	1.5	47.5	2.5
1N5379B	110	12	125.0	1000	1	0.5	83.6	1.4	43	2.5
1N5380B	120	10	170.0	1150	1	0.5	91.2	1.3	39.5	2.5
1N5381B	130	10	190.0	1250	1	0.5	98.8	1.2	36.5	2.5
1N5382B	140	8	230.0	1500	1	0.5	106.0	1.2	34	2.5
1N5383B	150	8	330.0	1500	1	0.5	114.0	1.1	31.6	3
1N5384B	160	8	350.0	1650	1	0.5	122.0	1.1	29.4	3
1N5385B	170	8	380.0	1750	1	0.5	129.0	1.0	28	3
1N5386B	180	5	430.0	1750	1	0.5	137.0	1.0	26.4	4
1N5387B	190	5	450.0	1850	1	0.5	144.0	0.9	25	5
1N5388B	200	5	480.0	1850	1	0.5	152.0	0.9	23.6	5

(1) Tested with pulses. Pulse test:  $t_p = 50$  ms;  $\delta < 2\%$ .

(2) Test conditions for voltage regulation are as follows.  $V_Z$  measurements are made at 10% and then at 50% of the  $I_Z$  max value listed in the electrical characteristics table.