

# 1N5221B-1 thru 1N5272B-1

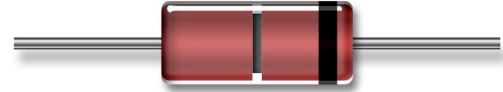


## 500 mW Zener Diode Series

Rev. V1

### Features

- JEDEC registered 1N5221 thru 1N5272 series
- Standard voltage tolerances are plus/minus 5% with B suffix, 10% with A suffix identification.
- Tight tolerances available in plus or minus 2% or 1% with C or D suffix respectively.
- 500 mW power handling
- Hermetically sealed axial-leaded glass DO-35 package.



### Electrical Specifications: $T_A = +25^\circ\text{C}$ (unless otherwise specified)

Part # <sup>1</sup>	Normal Zener Voltage $V_Z$	Zener Test Current $I_{ZT}$	Max. Zener Impedance			Max. Reverse Leakage $I_R @ V_R$		Max. Temperature Coefficient $aV_Z$
	Volts	mA	$Z_{ZT} @ I_{ZT}$ Ohms	$Z_{ZK} @ I_{ZK}$ Ohms	$@ I_{ZK}$ mA	$\mu\text{A}$	Volts	%/°C
1N5221B-1	2.4	20	30	1200	0.25	100	1.0	-0.085
1N5222B-1	2.5	20	30	1250	0.25	100	1.0	-0.085
1N5223B-1	2.7	20	30	1300	0.5	75	1.0	-0.080
1N5224B-1	2.8	20	30	1400	0.5	75	1.0	-0.080
1N5225B-1	3.0	20	29	1600	0.25	50	1.0	-0.075
1N5226B-1	3.3	20	28	1600	0.25	25	1.0	-0.070
1N5227B-1	3.6	20	24	1700	0.25	15	1.0	-0.065
1N5228B-1	3.9	20	23	1900	0.25	10	1.0	-0.060
1N5229B-1	4.3	20	22	2000	0.25	5.0	1.0	+/-0.055
1N5230B-1	4.7	20	19	1900	0.25	5.0	2.0	+/-0.030
1N5231B-1	5.1	20	17	1600	0.25	5.0	2.0	+/-0.030
1N5232B-1	5.6	20	11	1600	0.25	5.0	3.0	+0.038
1N5233B-1	6.0	20	7.0	1600	0.25	5.0	3.5	+0.038
1N5234B-1	6.2	20	7.0	1000	0.25	5.0	4.0	+0.045
1N5235B-1	6.8	20	5.0	750	0.25	3.0	5.0	+0.050
1N5236B-1	7.5	20	6.0	500	0.25	3.0	6.0	+0.058
1N5237B-1	8.2	20	8.0	500	0.25	3.0	6.5	+0.062
1N5238B-1	8.7	20	8.0	600	0.25	3.0	6.5	+0.065
1N5239B-1	9.1	20	10	600	0.25	3.0	7.0	+0.068
1N5240B-1	10	20	17	600	0.25	3.0	8.0	+0.075
1N5241B-1	11	20	22	600	0.25	2.0	8.4	+0.076
1N5242B-1	12	20	30	600	0.25	1.0	9.1	+0.077
1N5243B-1	13	9.5	13	600	0.25	0.5	9.9	+0.079
1N5244B-1	14	9.0	15	600	0.25	0.1	10	+0.082
1N5245B-1	15	8.5	16	600	0.25	0.1	11	+0.082
1N5246B-1	16	7.8	17	600	0.25	0.1	12	+0.083
1N5247B-1	17	7.4	19	600	0.25	0.1	13	+0.084
1N5248B-1	18	7.0	21	600	0.25	0.1	14	+0.085

1. The JEDEC type numbers shown (B Suffix) have a +5% tolerance on nominal Zener Voltage. The suffix A is used to identify +10% tolerance; suffix C is used to identify +2%; and suffix D is used to identify +1%; no suffix indicates +20%.

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Part # <sup>1</sup>	Normal Zener Voltage $V_Z$	Zener Test Current $I_{ZT}$	Max. Zener Impedance			Max. Reverse Leakage $I_R @ V_R$		Max. Temperature Coefficient $a_{V_Z}$
	Volts	mA	$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$\mu\text{A}$	Volts	%/°C
			Ohms	Ohms	mA			
1N5249B-1	19	6.6	23	600	0.25	0.1	14	+0.086
1N5250B-1	20	6.2	25	600	0.25	0.1	15	+0.086
1N5251B-1	22	5.6	29	600	0.25	0.1	17	+0.087
1N5252B-1	24	5.2	33	600	0.25	0.1	18	+0.088
1N5253B-1	25	5.0	35	600	0.25	0.1	19	+0.089
1N5254B-1	27	4.6	41	600	0.25	0.1	21	+0.090
1N5255B-1	28	4.5	44	600	0.25	0.1	21	+0.091
1N5256B-1	30	4.2	49	600	0.25	0.1	23	+0.091
1N5257B-1	33	3.8	58	700	0.25	0.1	25	+0.092
1N5258B-1	36	3.4	70	700	0.25	0.1	27	+0.093
1N5259B-1	39	3.2	80	800	0.25	0.1	30	+0.094
1N5260B-1	43	3.0	93	900	0.25	0.1	33	+0.095
1N5261B-1	47	2.7	105	1000	0.25	0.1	36	+0.095
1N5262B-1	51	2.5	125	1100	0.25	0.1	39	+0.096
1N5263B-1	56	2.2	150	1300	0.25	0.1	43	+0.096
1N5264B-1	60	2.1	170	1400	0.25	0.1	46	+0.097
1N5265B-1	62	2.0	185	1400	0.25	0.1	47	+0.097
1N5266B-1	68	1.8	230	1600	0.25	0.1	52	+0.097
1N5267B-1	75	1.7	270	1700	0.25	0.1	56	+0.098
1N5268B-1	82	1.5	330	2000	0.25	0.1	62	+0.098
1N5269B-1	87	1.4	370	2200	0.25	0.1	68	+0.099
1N5270B-1	91	1.4	400	2300	0.25	0.1	69	+0.099
1N5271B-1	100	1.3	500	2600	0.25	0.1	76	+0.110
1N5272B-1	110	1.1	750	3000	0.25	0.1	84	+0.110

1. The JEDEC type numbers shown (B Suffix) have a +5% tolerance on nominal Zener Voltage. The suffix A is used to identify +10% tolerance; suffix C is used to identify +2%; and suffix D is used identify +1%; no suffix indicates +20%.

### Absolute Maximum Ratings<sup>2,3</sup>

Parameter	Symbol	Absolute Maximum
Thermal Resistance	$R_{\theta JL}$ $R_{\theta JA}$	250°C/W 310°C/W
Steady-State Power	$P_D$	0.5 W
Forward Voltage	$V_F$	1.5 V @ 200 mA
Operating / Storage Temperature	$T_J$ and $T_{STG}$	-65°C to +175°C

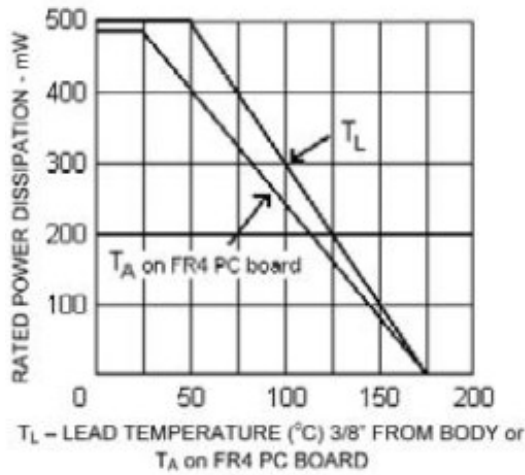
2. Exceeding any one or combination of these limits may cause permanent damage to this device.  
3. VPT Components does not recommend sustained operation near these survivability limits.

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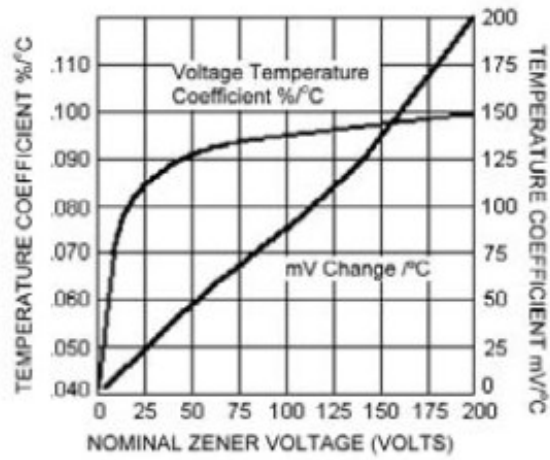


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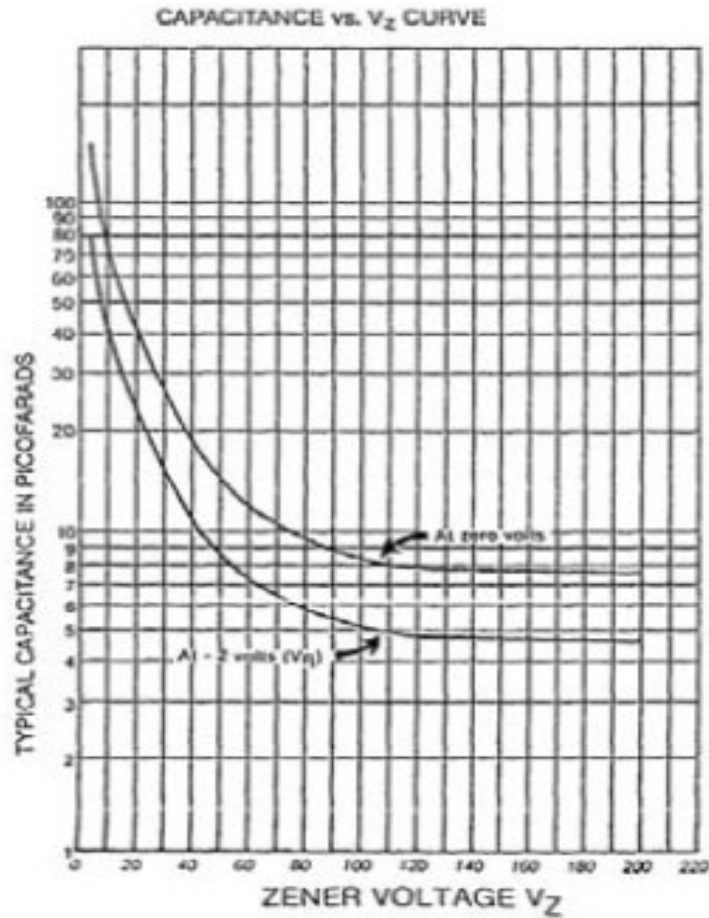
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**FIGURE 1**  
POWER DERATING CURVE



**FIGURE 2**  
ZENER VOLTAGE TEMPERATURE COEFFICIENT vs. ZENER VOLTAGE



**FIGURE 3**  
CAPACITANCE vs. ZENER VOLTAGE

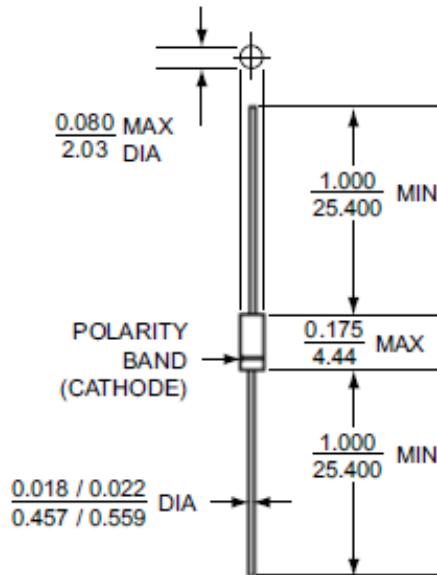
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500 mW Zener Diode Series

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## Outline Drawing



All dimensions in  $\frac{\text{INCH}}{\text{mm}}$

### LEADED DESIGN DATA

CASE: Hermetically sealed, DO – 35

LEAD MATERIAL: Copper clad steel

LEAD FINISH: Tin / Lead

THERMAL RESISTANCE: ( $R_{\theta JEC}$ ): 70 °C/W maximum at L = 0.375 in

THERMAL IMPEDANCE: ( $Z_{\theta JX}$ ): 12 °C/W maximum

POLARITY: Cathode end is banded.

MOUNTING POSITION: Any

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