

1N5221BUR-1 thru 1N5272BUR-1

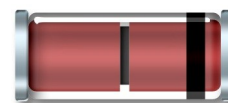
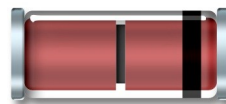


500 mW Zener Diode Series

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 surfacemount glass DO-213AA package.



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

Part # ¹	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	μA	Volts	%/°C
1N5221BUR-1	2.4	20	30	1200	0.25	100	1.0	-0.085
1N5222BUR-1	2.5	20	30	1250	0.25	100	1.0	-0.085
1N5223BUR-1	2.7	20	30	1300	0.5	75	1.0	-0.080
1N5224BUR-1	2.8	20	30	1400	0.5	75	1.0	-0.080
1N5225BUR-1	3.0	20	29	1600	0.25	50	1.0	-0.075
1N5226BUR-1	3.3	20	28	1600	0.25	25	1.0	-0.070
1N5227BUR-1	3.6	20	24	1700	0.25	15	1.0	-0.065
1N5228BUR-1	3.9	20	23	1900	0.25	10	1.0	-0.060
1N5229BUR-1	4.3	20	22	2000	0.25	5.0	1.0	+/-0.055
1N5230BUR-1	4.7	20	19	1900	0.25	5.0	2.0	+/-0.030
1N5231BUR-1	5.1	20	17	1600	0.25	5.0	2.0	+/-0.030
1N5232BUR-1	5.6	20	11	1600	0.25	5.0	3.0	+0.038
1N5233BUR-1	6.0	20	7.0	1600	0.25	5.0	3.5	+0.038
1N5234BUR-1	6.2	20	7.0	1000	0.25	5.0	4.0	+0.045
1N5235BUR-1	6.8	20	5.0	750	0.25	3.0	5.0	+0.050
1N5236BUR-1	7.5	20	6.0	500	0.25	3.0	6.0	+0.058
1N5237BUR-1	8.2	20	8.0	500	0.25	3.0	6.5	+0.062
1N5238BUR-1	8.7	20	8.0	600	0.25	3.0	6.5	+0.065
1N5239BUR-1	9.1	20	10	600	0.25	3.0	7.0	+0.068
1N5240BUR-1	10	20	17	600	0.25	3.0	8.0	+0.075
1N5241BUR-1	11	20	22	600	0.25	2.0	8.4	+0.076
1N5242BUR-1	12	20	30	600	0.25	1.0	9.1	+0.077
1N5243BUR-1	13	9.5	13	600	0.25	0.5	9.9	+0.079
1N5244BUR-1	14	9.0	15	600	0.25	0.1	10	+0.082
1N5245BUR-1	15	8.5	16	600	0.25	0.1	11	+0.082
1N5246BUR-1	16	7.8	17	600	0.25	0.1	12	+0.083
1N5247BUR-1	17	7.4	19	600	0.25	0.1	13	+0.084
1N5248BUR-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%.

Continued on next page

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

Part # ¹	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}	μA	Volts	%/ $^\circ\text{C}$
			Ohms	Ohms	mA			
1N5249BUR-1	19	6.6	23	600	0.25	0.1	14	+0.086
1N5250BUR-1	20	6.2	25	600	0.25	0.1	15	+0.086
1N5251BUR-1	22	5.6	29	600	0.25	0.1	17	+0.087
1N5252BUR-1	24	5.2	33	600	0.25	0.1	18	+0.088
1N5253BUR-1	25	5.0	35	600	0.25	0.1	19	+0.089
1N5254BUR-1	27	4.6	41	600	0.25	0.1	21	+0.090
1N5255BUR-1	28	4.5	44	600	0.25	0.1	21	+0.091
1N5256BUR-1	30	4.2	49	600	0.25	0.1	23	+0.091
1N5257BUR-1	33	3.8	58	700	0.25	0.1	25	+0.092
1N5258BUR-1	36	3.4	70	700	0.25	0.1	27	+0.093
1N5259BUR-1	39	3.2	80	800	0.25	0.1	30	+0.094
1N5260BUR-1	43	3.0	93	900	0.25	0.1	33	+0.095
1N5261BUR-1	47	2.7	105	1000	0.25	0.1	36	+0.095
1N5262BUR-1	51	2.5	125	1100	0.25	0.1	39	+0.096
1N5263BUR-1	56	2.2	150	1300	0.25	0.1	43	+0.096
1N5264BUR-1	60	2.1	170	1400	0.25	0.1	46	+0.097
1N5265BUR-1	62	2.0	185	1400	0.25	0.1	47	+0.097
1N5266BUR-1	68	1.8	230	1600	0.25	0.1	52	+0.097
1N5267BUR-1	75	1.7	270	1700	0.25	0.1	56	+0.098
1N5268BUR-1	82	1.5	330	2000	0.25	0.1	62	+0.098
1N5269BUR-1	87	1.4	370	2200	0.25	0.1	68	+0.099
1N5270BUR-1	91	1.4	400	2300	0.25	0.1	69	+0.099
1N5271BUR-1	100	1.3	500	2600	0.25	0.1	76	+0.110
1N5272BUR-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 to identify +1%; no suffix indicates +20%.

Absolute Maximum Ratings^{(2), (3)}

Parameter	Symbol	Absolute Maximum
Thermal Resistance	$R_{\theta\text{JEC}}$ $R_{\theta\text{JA}}^{(4)}$	100 $^\circ\text{C}/\text{W}$ 250 $^\circ\text{C}/\text{W}$
Steady-State Power ⁽⁵⁾	P_D	0.5 W
Forward Voltage	V_F	1.5 V @ 200 mA
Operating / Storage Temperature	T_J and T_{STG}	-65 $^\circ\text{C}$ to +175 $^\circ\text{C}$

- Exceeding any one or combination of these limits may cause permanent damage to this device.
- VPT Components does not recommend sustained operation near these survivability limits.
- When mounted on FR4 PC board (1 oz Cu) with recommended footprint.
- At end cap temperature $T_{\text{EC}} \leq 125^\circ\text{C}$ or ambient temperature $T_A \leq 50^\circ\text{C}$ when mounted on FR4 PC board as described for thermal resistance above.

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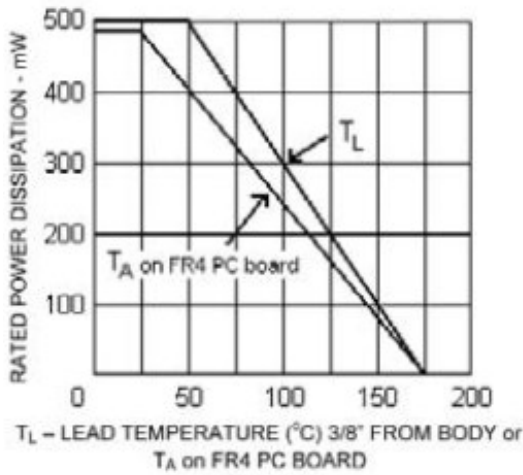


FIGURE 1
POWER DERATING CURVE

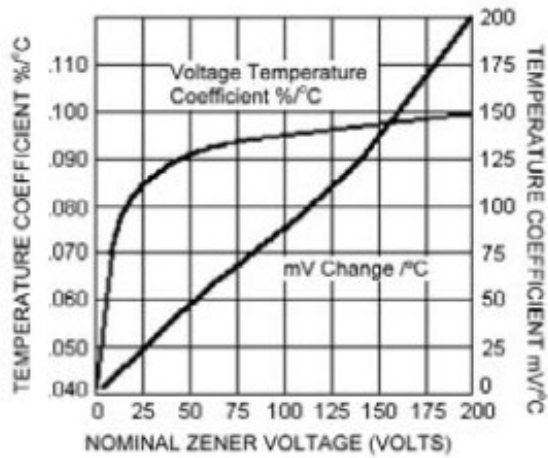


FIGURE 2
ZENER VOLTAGE TEMPERATURE COEFFICIENT vs. ZENER VOLTAGE

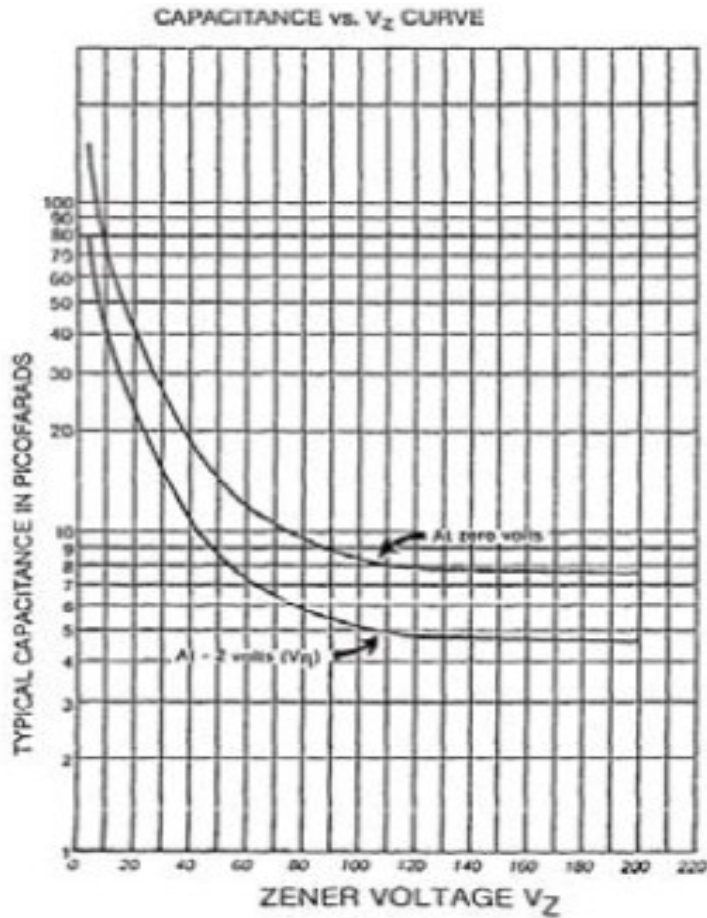


FIGURE 3
CAPACITANCE vs. ZENER VOLTAGE

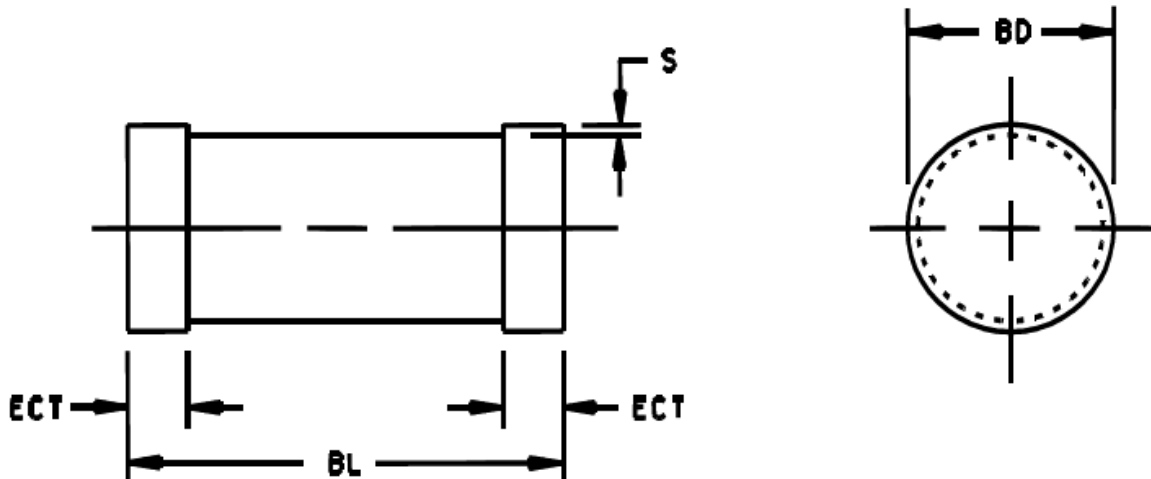
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Outline Drawing (DO-213AA)



Symbol	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	.063	.067	1.60	1.70
ECT	.016	.022	0.41	0.56
BL	.130	.146	3.30	3.71
S	.001 min		0.03 min	

NOTES:

1. Dimensions are in inches.
2. Millimeter equivalents are given for general information only.
3. In accordance with ASME Y14.5M, diameters are equivalent to Φ x symbology.

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