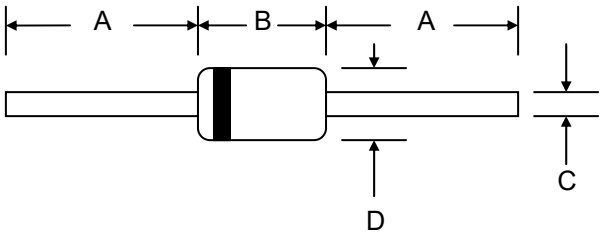
1N5221B THRU 1N5261B

500mW Axial Zener Diode

Features

- Planar Die Construction
- 500mW Power Dissipation
- 2.4V – 47V Nominal Zener Voltage
- 5% Standard Vz Tolerance
- Low Inductance
- For Use in Voltage Regulator or Reference
- Plastic Case Material has UL Flammability Classification Rating 94V-0



Mechanical Data

- Case: DO-35, Molded Glass
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.13 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version**

DO-35		
Dim	**Min**	**Max**
A	25.40	—
B	—	3.80
C	0.45	0.55
D	1.65	1.95
All Dimensions in mm		

Maximum Ratings @T_A=25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation at T_A = 25°C (Note 1)	P_D	500	mW
Forward Voltage @ I_F = 200mA	V_F	1.1	V
Thermal Resistance Junction to Ambient (Note 2)	$R_{\theta JA}$	300	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +175	°C

Note: 1. Measured at lead length 3/8" (9.5mm) from body.
2. Valid provided that leads are kept at ambient temperature at a distance of 10mm from the case.

Electrical Characteristics (@T_A=25°C unless otherwise specified) Table 1

Type Number (Note 1)	Nominal Zener Voltage (Note 2)	Test Current	Maximum Zener Impedance (Note 3)			Maximum Reverse Leakage Current		Typical Temp. Coefficient of Zener Voltage
	V_Z @ I_{ZT}	I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R	@ V_R	αV_Z @ I_{ZT}
	(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(%/°C)
1N5221B	2.4	20	30	1200	0.25	100	1.0	-0.085
1N5222B	2.5	20	30	1250	0.25	100	1.0	-0.085
1N5223B	2.7	20	30	1300	0.25	75	1.0	-0.080
1N5224B	2.8	20	30	1400	0.25	75	1.0	-0.080
1N5225B	3.0	20	29	1600	0.25	50	1.0	-0.075
1N5226B	3.3	20	28	1600	0.25	25	1.0	-0.070
1N5227B	3.6	20	24	1700	0.25	15	1.0	-0.065
1N5228B	3.9	20	23	1900	0.25	10	1.0	-0.060
1N5229B	4.3	20	22	2000	0.25	5.0	1.0	-0.055
1N5230B	4.7	20	19	1900	0.25	5.0	2.0	±0.030
1N5231B	5.1	20	17	1600	0.25	5.0	2.0	±0.030
1N5232B	5.6	20	11	1600	0.25	5.0	3.0	+0.038
1N5233B	6.0	20	7.0	1600	0.25	5.0	3.5	+0.038
1N5234B	6.2	20	7.0	1000	0.25	5.0	4.0	+0.045
1N5235B	6.8	20	5.0	750	0.25	3.0	5.0	+0.050
1N5236B	7.5	20	6.0	500	0.25	3.0	6.0	+0.058
1N5237B	8.2	20	8.0	500	0.25	3.0	6.5	+0.062
1N5238B	8.7	20	8.0	600	0.25	3.0	6.5	+0.065
1N5239B	9.1	20	10	600	0.25	3.0	7.0	+0.068
1N5240B	10	20	17	600	0.25	3.0	8.0	+0.075
1N5241B	11	20	22	600	0.25	2.0	8.4	+0.076
1N5242B	12	20	30	600	0.25	1.0	9.1	+0.077
1N5243B	13	9.5	13	600	0.25	0.5	9.9	+0.079
1N5244B	14	9.0	15	600	0.25	0.1	10	+0.082
1N5245B	15	8.5	16	600	0.25	0.1	11	+0.082
1N5246B	16	7.8	17	600	0.25	0.1	12	+0.083
1N5247B	17	7.4	19	600	0.25	0.1	13	+0.084
1N5248B	18	7.0	21	600	0.25	0.1	14	+0.085
1N5249B	19	6.6	23	600	0.25	0.1	14	+0.086
1N5250B	20	6.2	25	600	0.25	0.1	15	+0.086
1N5251B	22	5.6	29	600	0.25	0.1	17	+0.087
1N5252B	24	5.2	33	600	0.25	0.1	18	+0.087
1N5253B	25	5.0	35	600	0.25	0.1	19	+0.089
1N5254B	27	4.6	41	600	0.25	0.1	21	+0.090
1N5255B	28	4.5	44	600	0.25	0.1	21	+0.091
1N5256B	30	4.2	49	600	0.25	0.1	23	+0.091
1N5257B	33	3.8	58	700	0.25	0.1	25	+0.092
1N5258B	36	3.4	70	700	0.25	0.1	27	+0.093
1N5259B	39	3.2	80	800	0.25	0.1	30	+0.094
1N5260B	43	3.0	93	900	0.25	0.1	33	+0.095
1N5261B	47	2.7	105	1000	0.25	0.1	36	+0.095

Note: 1. Type numbers listed have standard tolerance on the nominal zener voltage of ±5%.
2. Measured under thermal equilibrium and DC (I_{ZT}) test conditions.
3. f = 1KHz

Ratings and Characteristic Curves

Fig. 1 Power Derating Curve

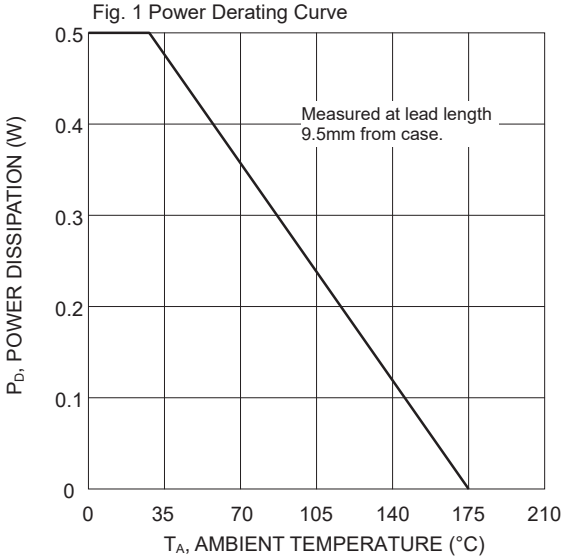


Fig. 2 Zener Breakdown Characteristics

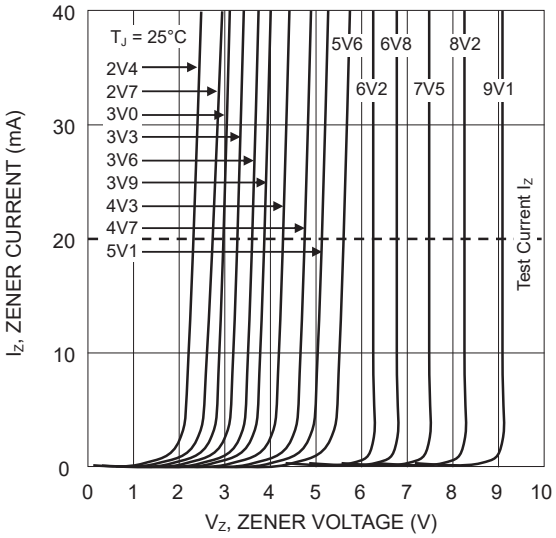


Fig. 3 Zener Breakdown Characteristics

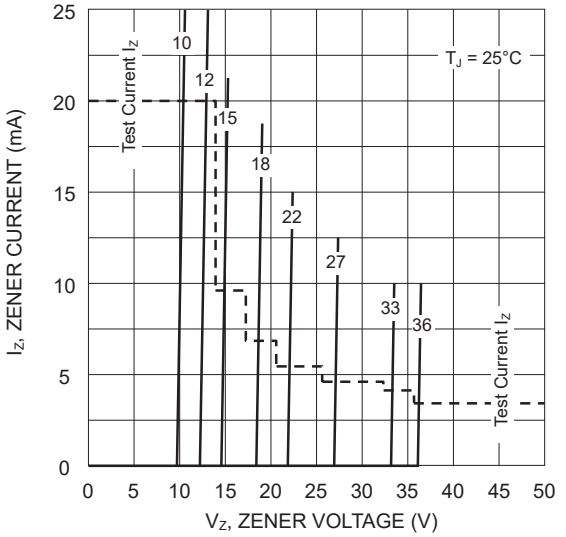


Fig. 4 Zener Breakdown Characteristics

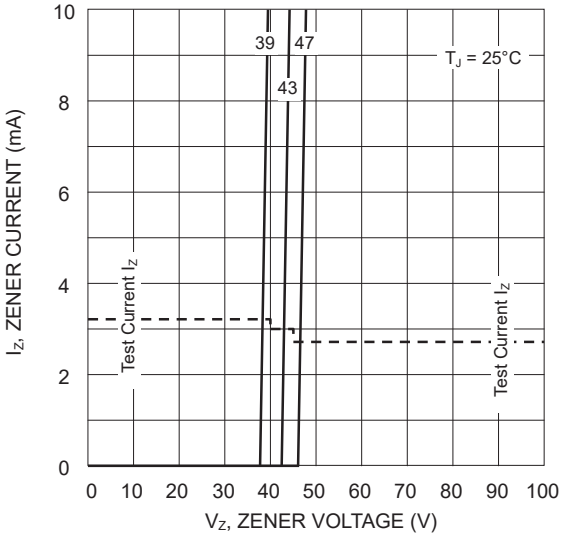


Fig. 5 Typical Forward Characteristics

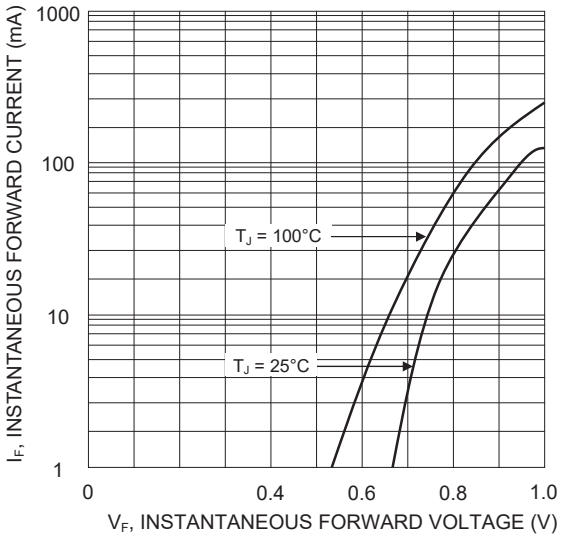
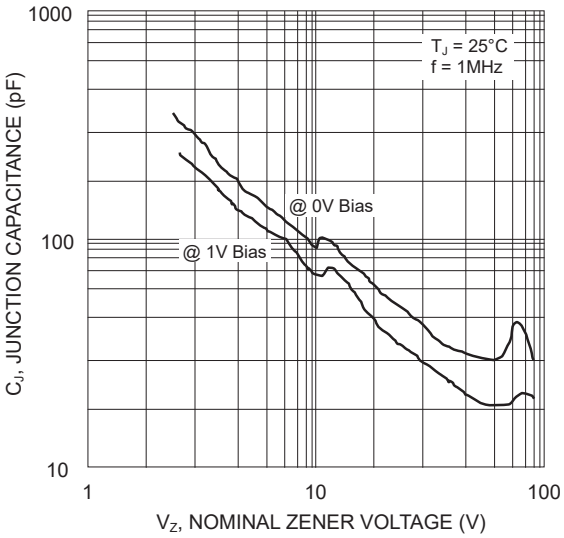
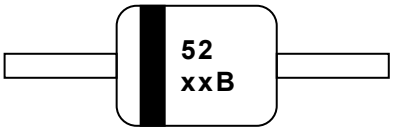


Fig. 6 Junction Capacitance vs. Nominal Zener Voltage

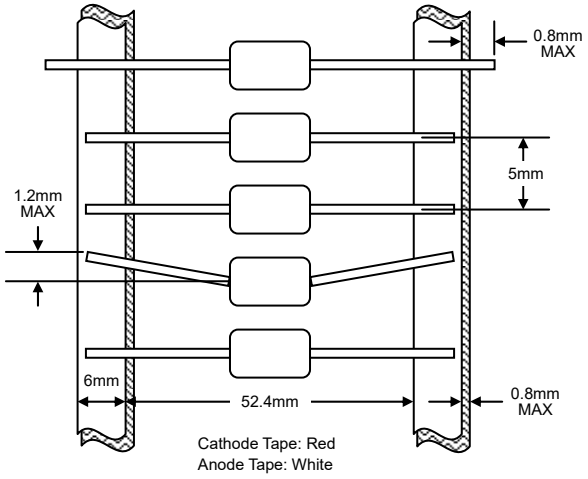


MARKING INFORMATION



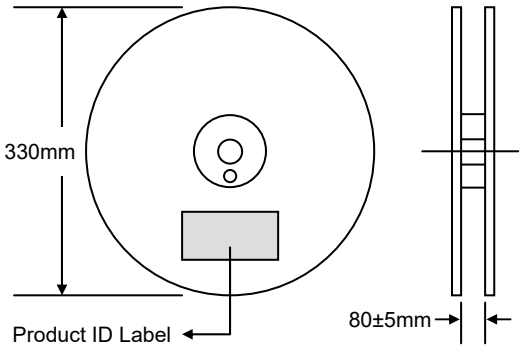
Cathode = Polarity Band
52xxB = Device Number

TAPING SPECIFICATIONS

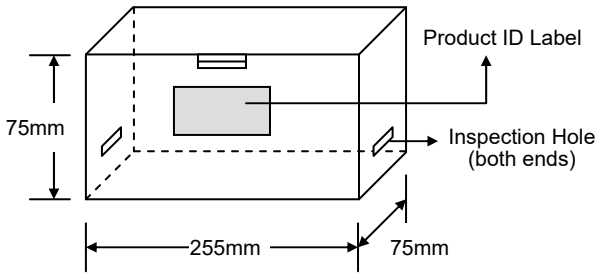


PACKAGING INFORMATION

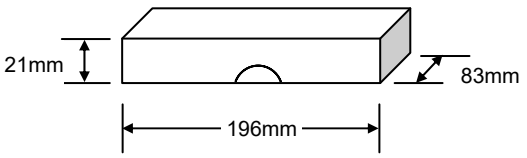
TAPE & REEL



TAPE & BOX



BULK



Packaging	Reel Diameter / Box Size (mm)	Quantity (PCS)	Carton Size (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
TAPE & REEL	330	5,000	370 x 370 x 420	25,000	8.5
TAPE & BOX	255 x 75 x 75	5,000	410 x 335 x 265	100,000	15.5
BULK	196 x 83 x 21	2,000	410 x 335 x 265	100,000	14.5

Note: 1. Paper reel, white or gray color. Core material: plastic or metal.
2. Components are packed in accordance with EIA standard RS-296-E.

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