DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

1N5518-1N5546D

Zener Diodes
500mW
Low Voltage Avalanche

FEATURES:

- Available as “HR” (high reliability) screened per MIL-PRF-19500, JANTX level. Add “HR” suffix to base part number.
- Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).

MAXIMUM RATINGS

Characteristics	Symbol	Ratings
Junction and storage temperature:	T_J, T_{STG}	-65° to +175°C
DC power dissipation@ T_A = 50°C: **Derate above 50°C:**	P_D	500mW @ 50°C 4mW/°C
Forward voltage @ 200mA	V_F	1.1V

ELECTRICAL CHARACTERISTICS

Part number(1)	Nominal zener voltage	Zener test current	Maximum zener impedance B-C-D Suffix	Maximum reverse leakage current			B-C-D suffix maximum DC zener current	B-C-D suffix maximum noise density @ I_Z = 250µ A	Regulation factor	Low V_Z current
	V_Z @ I_{ZT} (2)	I_{ZT}	Z_{ZT} @ I_{ZT}(3)	I_R(4)	V_R = Volts		I_{ZM}	N_D	$\triangle V_Z$(5)	I_{ZL}
	Volts	mAdc	OHMS	µAdc	Non & A-Suffix	B-C-D Suffix	mAdc	µV/ √HZ	VOLTS	mAdc
1N5518B	3.3	20.0	26	5.00	0.90	1.0	115	0.5	0.90	2.00
1N5519B	3.6	20.0	24	3.00	0.90	1.0	105	0.5	0.90	2.00
1N5520B	3.9	20.0	22	1.00	0.90	1.0	98	0.5	0.85	2.00
1N5521B	4.3	20.0	18	3.00	1.00	1.5	88	0.5	0.75	2.00
1N5522B	4.7	10.0	22	2.00	1.50	2.0	81	0.5	0.60	1.00
1N5523B	5.1	5.0	26	2.00	2.00	2.5	75	0.5	0.65	0.25
1N5524B	5.6	3.0	30	2.00	3.00	3.5	68	1.0	0.30	0.25
1N5525B	6.2	1.0	30	1.00	4.50	5.0	61	1.0	0.20	0.01
1N5526B	6.8	1.0	30	1.00	5.50	6.2	56	1.0	0.10	0.01
1N5527B	7.5	1.0	35	0.50	6.00	6.8	51	2.0	0.05	0.01
1N5528B	8.2	1.0	40	0.50	6.50	7.5	46	4.0	0.05	0.01
1N5529B	9.1	1.0	45	0.10	7.00	8.2	42	4.0	0.05	0.01
1N5530B	10.0	1.0	60	0.05	8.00	9.1	38	4.0	0.10	0.01
1N5531B	11.0	1.0	80	0.05	9.00	9.9	35	5.0	0.20	0.01
1N5532B	12.0	1.0	90	0.05	9.50	10.8	32	10.0	0.20	0.01
1N5533B	13.0	1.0	90	0.01	10.50	11.7	29	15.0	0.20	0.01
1N5534B	14.0	1.0	100	0.01	11.50	12.6	27	20.0	0.20	0.01
1N5535B	15.0	1.0	100	0.01	12.50	13.5	25	20.0	0.20	0.01
1N5536B	16.0	1.0	100	0.01	13.00	14.4	24	20.0	0.20	0.01
1N5537B	17.0	1.0	100	0.01	14.00	15.3	22	20.0	0.20	0.01
1N5538B	18.0	1.0	100	0.01	15.00	16.2	21	20.0	0.20	0.01
N15539B	19.0	1.0	100	0.01	16.00	17.1	20	20.0	0.20	0.01
1N5540B	20.0	1.0	100	0.01	17.00	18.0	19	20.0	0.20	0.01
1N5541B	22.0	1.0	100	0.01	18.00	19.8	17	20.0	0.25	0.01
1N5542B	24.0	1.0	100	0.01	20.00	21.6	16	20.0	0.30	0.01
1N5543B	25.0	1.0	100	0.01	21.00	22.4	15	20.0	0.35	0.01

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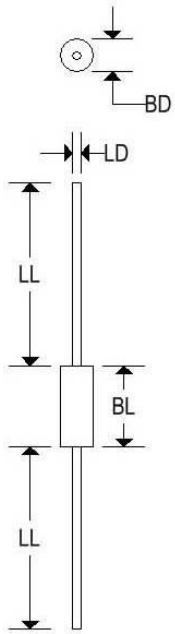
	V_Z @ I_{ZT} [2]	I_{ZT}	Z_{ZT} @ I_{ZT}[3]	I_R[4]	V_R = Volts		I_{ZM}	N_D	$\triangle V_Z$[5]	I_{ZL}
	Volts	mAdc	OHMS	µAdc	Non & A-Suffix	B-C-D Suffix	mAdc	µV/ √HZ	VOLTS	mAdc
1N5544B	28.0	1.0	100	0.01	23.00	25.2	14	20.0	0.40	0.01
1N5545B	30.0	1.0	100	0.01	24.00	27.0	13	20.0	0.45	0.01
1N5546B	33.0	1.0	100	0.01	28.00	29.7	12	20.0	0.50	0.01

Note 1: No Suffix type numbers are ±20% with guaranteed limits for only, V_Z, I_R, and V_F. Units with "A" suffix are ±10% with guaranteed limits for V_Z, I_R, and V_F. Units with guaranteed limits for all six parameters are indicated by "B" suffix for ±5.0% , "C " suffix for +±2% and "D" suffix for ±1.0%.
Note 2: Zener voltage is measured with the device junction in thermal equilibrium at an ambient temperature of 25°C ±3°C.
Note 3: Zener impedance is derived by superimposing on I_{ZT} a 60 Hz ms a.c. current equal to 10% of I_{ZT}.
Note 4: Reverse leakage currents are measured at V_R as shown on the table.
Note 5: $\triangle V_Z$ is the maximum difference between V_Z @ I_{ZT} and V_Z @ I_{ZL} measured with the device junction in thermal equilibrium at the ambient temperature of +25°C ±3°C.

MECHANICAL CHARACTERISTICS

Case:	Glass DO-35
Marking:	Body Painted, Alpha Numeric
Polarity:	Cathode Band



	DO-35			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.055	0.090	1.400	2.290
BL	0.120	0.200	3.050	5.080
LD	0.018	0.022	0.460	0.560
LL	1.000	1.500	25.400	38.100

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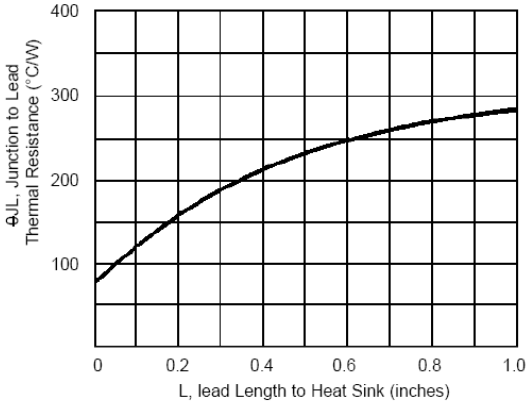
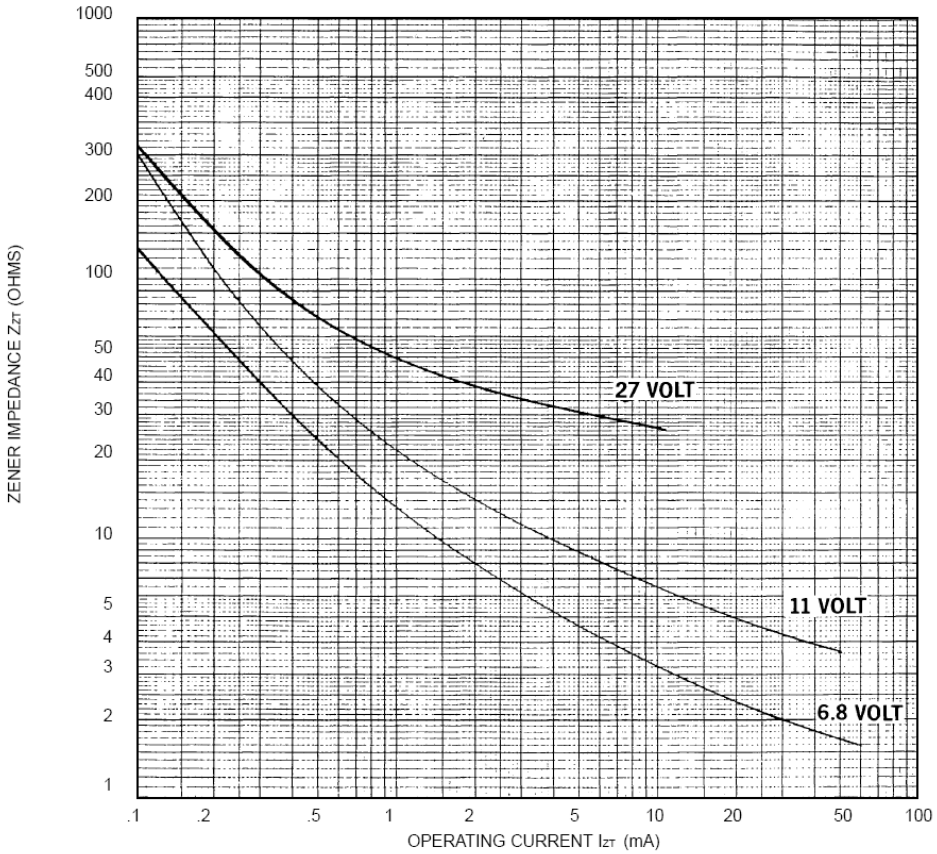


TYPICAL THERMAL RESISTANCE



ZENER IMPEDANCE VS. OPERATING CURRENT