DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

1N941-1N946B

TEMPERATURE COMPENSATED ZENER DIODES

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Operating and Storage Temperature:	-55 to +175°C
DC Power Dissipation:	500 mW @ T_L = 25°C maximum current I_{ZM} of 39mA
Optimum Voltage Temperature Stability	I_Z = 7.5mA
Solder Temperatures:	260°C for 10 s (maximum)

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Part Number (Note 1)	Zener Voltage V_Z @ I_{ZT} (Note 4)	Zener Test Current I_{ZT}	Maximum Zener Impedance (Note 2) Z_{ZT} @ I_{ZT}	Maximum Reverse Current I_R @ 8 V	Voltage Temperature Stability (Note 3 & 4) $\triangle V_{ZT}$ Maximum	Temperature Range	Effective Temperature Coefficient α_{VZ}
	Volts	**mA**	**Ohms**	**µA**	**mV**	**°C**	**%/°C**
1N941	11.12-12.28	7.5	30	15	88	0 to +75	0.01
1N941A	11.12-12.28	7.5	30	15	181	-55 to +100	0.01
1N941B	11.12-12.28	7.5	30	15	239	-55 to +150	0.01
1N942	11.12-12.28	7.5	30	15	44	0 to +75	0.005
1N942A	11.12-12.28	7.5	30	15	90	-55 to +100	0.005
1N942B	11.12-12.28	7.5	30	15	120	-55 to +150	0.005
1N943	11.12-12.28	7.5	30	15	18	0 to +75	0.002
1N943A	11.12-12.28	7.5	30	15	36	-55 to +100	0.002
1N943B	11.12-12.28	7.5	30	15	47	-55 to +150	0.002
1N944	11.12-12.28	7.5	30	15	9	0 to +75	0.001
1N944A	11.12-12.28	7.5	30	15	18	-55 to +100	0.001
1N944B	11.12-12.28	7.5	30	15	24	-55 to +150	0.001
1N945	11.12-12.28	7.5	30	15	4	0 to +75	0.0005
1N945A	11.12-12.28	7.5	30	15	9	-55 to +100	0.0005
1N945B	11.12-12.28	7.5	30	15	12	-55 to +150	0.0005
1N946	11.12-12.28	7.5	30	15	1.8	0 to +75	0.0002
1N946A	11.12-12.28	7.5	30	15	3.6	-55 to +100	0.0002
1N946B	11.12-12.28	7.5	30	15	4.7	-55 to +150	0.0002

Note 1: For tighter voltage tolerances, add a hyphenated suffix to the part number for desired tolerance at the end of the part number.
Note 2: Measured by superimposing 0.75mA ac rms on 7.5 mA dc @ 25°C.
Note 3: The maximum allowable change observed over the entire temperature range will not exceed the specified mV change at any discrete temperature between the established limits.
Note 4: Voltage measurements to be performed 15 seconds after application of dc current.

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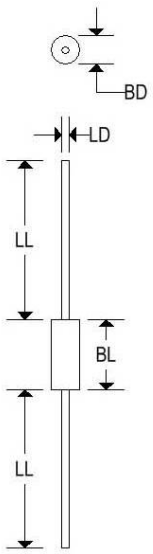
MECHANICAL CHARACTERISTICS

Case:	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

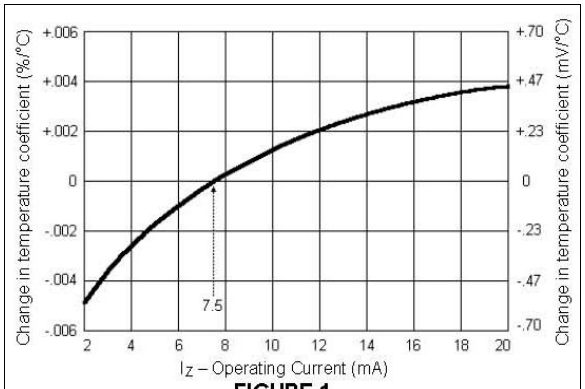


FIGURE 1
TYPICAL CHANGE OF TEMPERATURE COEFFICIENT WITH CHANGE IN OPERATING CURRENT.

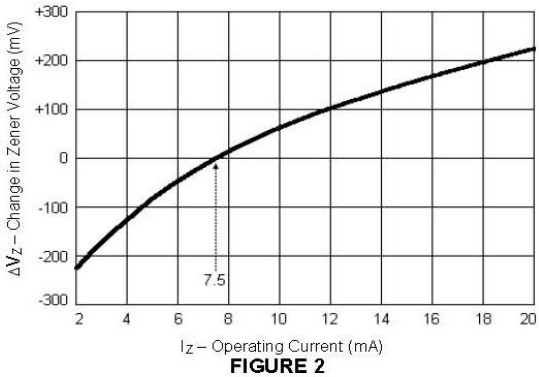


FIGURE 2
TYPICAL CHANGE OF ZENER VOLTAGE WITH CHANGE IN OPERATING CURRENT.