

**ZENER** – TEMPERATURE COMPENSATED ZENER REFERENCE DIODES  
 – 9.0 VOLT NOMINAL ZENER VOLTAGE  
 – METALLURGICALLY BONDED

Qualified per MIL-PRF-19500/156

**DEVICES**

**1N935 thru 1N938B  
 1N935B-1 thru 1N938B-1**

**LEVELS  
 JAN  
 JANTX  
 JANTXV  
 JANS**

**MAXIMUM RATING AT 25°C**

Operating Temperature: -65°C to +175°C  
 Storage Temperature: -65°C to +175°C  
 DC Power Dissipation: 500mW @ +50°C  
 Power Derating: 4mW / °C above +50°C

**REVERSE LEAKAGE CURRENT**

$I_R = 10\mu A$  @ 25°C &  $V_R = 6Vdc$

**ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ C$ , unless otherwise specified)**

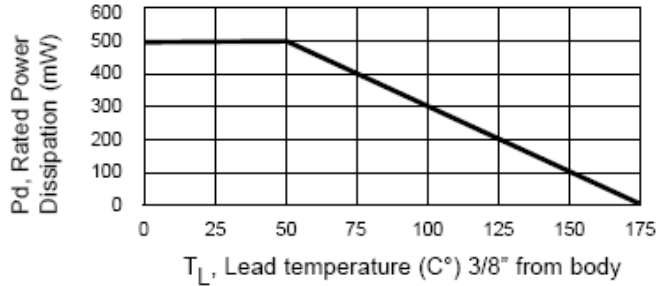
MIL-PRF-19500/156	JEDEC TYPE NUMBER	ZENER VOLTAGE	ZENER TEST CURRENT	MAXIMUM ZENER IMPEDANCE	VOLTAGE TEMPERATURE STABILITY	TEMPERATURE RANGE	EFFECTIVE TEMPERATURE COEFFICIENT
		$V_Z @ I_{ZT}$	$I_{ZT}$	(Note 1) $Z_{ZT}$	$^3V_{ZT}$ MAXIMUM (Note 2)		
		VOLTS	mA	OHMS	mV	°C	% / °C
1N935B-1	1N935	8.55 – 9.45	7.5	20	67	0 to +75	0.01
	1N935A	8.55 – 9.45	7.5	20	139	-55 to +100	0.01
	1N935B	8.55 – 9.45	7.5	20	184	-55 to +150	0.01
1N936B-1	1N936	8.55 – 9.45	7.5	20	34	0 to +75	0.005
	1N936A	8.55 – 9.45	7.5	20	70	-55 to +100	0.005
	1N936B	8.55 – 9.45	7.5	20	92	-55 to +150	0.005
1N937B-1	1N937	8.55 – 9.45	7.5	20	13	0 to +75	0.002
	1N937A	8.55 – 9.45	7.5	20	28	-55 to +100	0.002
	1N937B	8.55 – 9.45	7.5	20	37	-55 to +150	0.002
1N938B-1	1N938	8.55 – 9.45	7.5	20	6.7	0 to +75	0.001
	1N938A	8.55 – 9.45	7.5	20	13.9	-55 to +100	0.001
	1N938B	8.55 – 9.45	7.5	20	19	-55 to +150	0.001



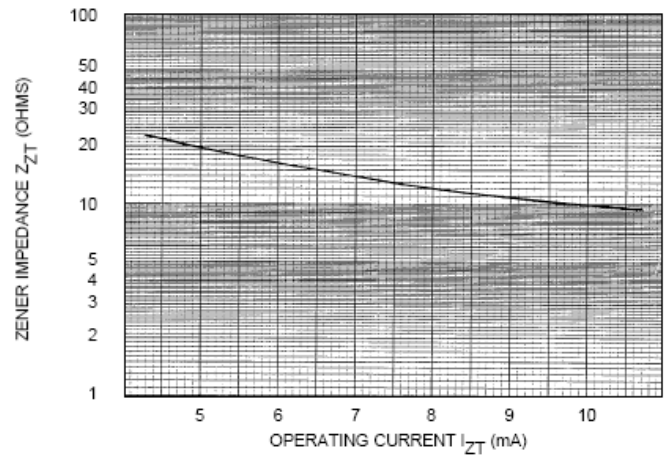
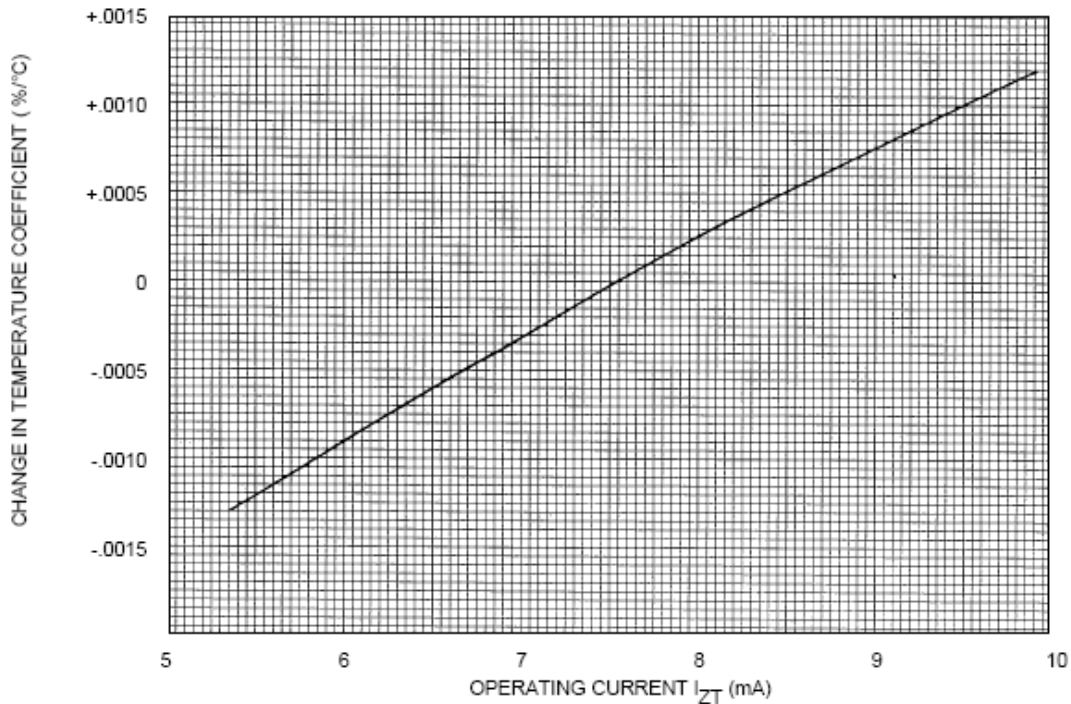
**DO-35**

**NOTE 1:** Zener impedance is derived by superimposing on  $I_{ZT}$  A 60Hz rms a.c. current equal to 10% of  $I_{ZT}$

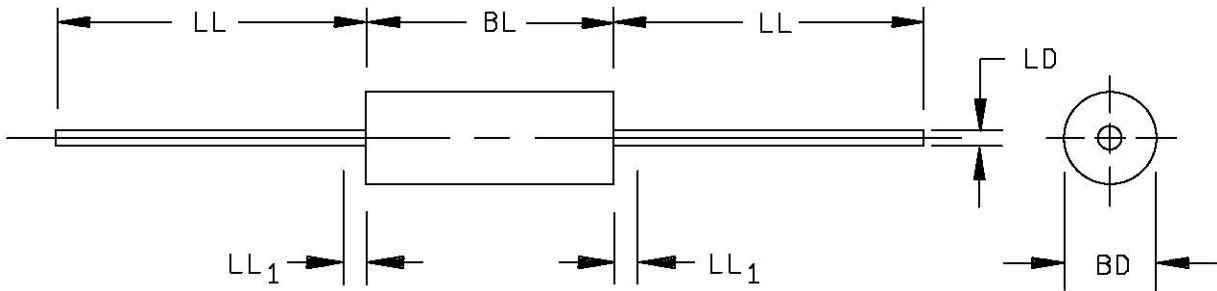
**NOTE 2:** The maximum allowable change observed over the entire temperature range i.e., the diode voltage will not exceed the specified mV at any discrete temperature between the established limits, per JEDEC standard No. 5.

**GRAPHS**
**FIGURE 1**


$T_L$ , Lead temperature (C°) 3/8" from body  
**POWER DERATING CURVE**

**FIGURE 2**

**ZENER IMPEDANCE VS. OPERATING CURRENT**
**FIGURE 3**

**TYPICAL CHANGE OF TEMPERATURE COEFFICIENT  
 WITH CHANGE IN OPERATING CURRENT**

**PACKAGE DIMENSIONS**



**NOTE:**

1. Dimensions are in inches.
2. Millimeters are given for general information only.
3. Package contour optional within BD and length BL. Heat slugs, if any, shall be included within this cylinder but shall not be subject to minimum limit of BD.
4. Within this zone, lead diameter may vary to allow for lead finishes and irregularities, other than heat slugs.
5. In accordance with ASME Y14.5M, diameters are equivalent to  $\Phi$ x symbology.

Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
BD	.060	.107	1.52	2.72	3
BL	.120	.300	3.05	7.62	3
LD	.018	.023	0.46	0.58	
LL	1.000	1.500	25.40	38.10	
LL1		0.050		1.27	4

**FIGURE 1.** Physical dimensions 1N935B-1, 1N937B-1 through 1N940B-1 (DO-7 and DO-35).

**DESIGN DATA**

**Case:** Hermetically sealed glass case DO-35 outline.

**Lead Material:** Copper clad steel.

**Lead Finish:** Tin / Lead

**Polarity:** Diode to be operated with the banded (cathode) end positive.

**Mounting Position:** Any.