

**9.0 VOLT  
TEMPERATURE  
COMPENSATED  
ZENER REFERENCE  
DIODES**

**FEATURES**

- ZENER VOLTAGE 9.0 V
- 1N935B, 937B, 938B, 940B HAVE JAN, JANTX, JANTXV, AND -1 QUALIFICATIONS TO MIL-S-19500/156
- 1N939A
- RADIATION HARDENED DEVICES AVAILABLE (SEE NOTE 5)

**MAXIMUM RATINGS**

Operating Temperature: -65°C to +175°C.  
Storage Temperature: -65°C to +175°C  
DC Power Dissipation: 500 mW @ 25°C.  
Power Derating: 3.33 mW/°C above 25°C.

**\* ELECTRICAL CHARACTERISTICS**  
@ 25°C, unless otherwise specified

JEDEC TYPE NUMBERS	ZENER VOLTAGE V <sub>Z</sub> @ I <sub>ZT</sub> (NOTE 1 & 4)	ZENER TEST CURRENT I <sub>ZT</sub>	MAXIMUM ZENER IMPEDANCE (NOTE 2) Z <sub>ZT</sub>	VOLTAGE TEMPERATURE STABILITY (NOTE 3 & 4) ΔV <sub>ZT</sub> MAXIMUM	TEMPERATURE RANGE	EFFECTIVE TEMPERATURE COEFFICIENT α <sub>VZ</sub>
	VOLTS	mA	OHMS	mV	°C	%/°C
1N935 1N935A 1N935B	8.55-9.45 8.55-9.45 8.55-9.45	7.5 7.5 7.5	20 20 20	67 139 184	0 to +75 -55 to +100 -55 to +150	0.01 0.01 0.01
1N936 1N936A 1N936B	8.55-9.45 8.55-9.45 8.55-9.45	7.5 7.5 7.5	20 20 20	33 69 92	0 to +75 -55 to +100 -55 to +150	0.005 0.005 0.005
1N937 1N937A 1N937B	8.55-9.45 8.55-9.45 8.55-9.45	7.5 7.5 7.5	20 20 20	13 27 37	0 to +75 -55 to +100 -55 to +150	0.002 0.002 0.002
1N938 1N938A 1N938B	8.55-9.45 9.55-9.45 8.55-9.45	7.5 7.5 7.5	20 20 20	6 13 18	0 to +75 -55 to +100 -55 to +150	0.001 0.001 0.001
1N939 1N939A 1N939B	8.55-9.45 8.55-9.45 8.55-9.45	7.5 7.5 7.5	20 20 20	3 7 9	0 to +75 -55 to +100 -55 to +150	0.0005 0.0005 0.0005
1N940 1N940A 1N940B	8.55-9.45 8.55-9.45 8.55-9.45	7.5 7.5 7.5	20 20 20	1.3 2.7 3.7	0 to +75 -55 to +100 -55 to +150	0.0002 0.0002 0.0002

\*JEDEC Registered Data

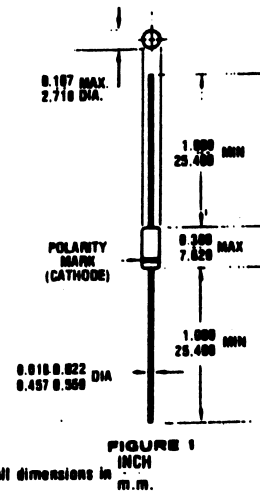
**NOTE 1** When ordering devices with tighter tolerances than specified, use a nominal center voltage of 9.2V.

**NOTE 2** Measured by superimposing 0.75 mA ac rms on 7.5 mA DC @ 25°C.

**NOTE 3** The maximum allowable change observed over the entire temperature range i.e., the diode voltage 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.

**NOTE 5** Designate Radiation Hardened devices with "RH" prefix instead of "1N", i.e. RH938A instead of 1N938A.



**MECHANICAL CHARACTERISTICS**

**CASE:** Hermetically sealed glass case. DO-7.

**FINISH:** All external surfaces are corrosion resistant and leads solderable.

**THERMAL RESISTANCE:** 300°C/W (Typical) junction to lead at 0.375-inches from body.

**POLARITY:** Diode to be operated with the banded end positive with respect to the opposite end.

**WEIGHT:** 0.2 grams.

**MOUNTING POSITION:** Any.

