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NTE7080
Integrated Circuit
Precision Voltage Reference Diode, 1.235V

Description:

The NTE7080 is a micropower two–terminal band–gap voltage regulator diode in a TO92 type package. This device features exceptionally low dynamic impedance, low noise, and stable operation over time and temperature. Tight voltage tolerances are achieved by on–chip trimming. The large dynamic operating range enables this device to be used in applications with widely varying supplies with excellent regulation. Extremely low operating current make the NTE7080 ideal for micropower circuitry like portable instrumentation, regulators, and other analog circuitry where extended battery life is required.

Features:

- 1.0% Tolerance
- Low Temperature Coefficient
- 1.0Ω Dynamic Impedance

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Reverse Current, I_R 30mA
Forward Current, I_F 10mA
Operating Ambient Temperature Range, T_A . . . . . 0 to +70°C
Operating Junction Temperature, T_J . . . . . +150°C
Storage Temperature Range, T_{stg} . . . . . –65° to +150°C

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_{Rmin} \le I_R \le 20mA$	1.223	1.235	1.247	V
		$I_{Rmin} \le I_R \le 20mA$, T_A = 0 to +70°C	1.210	–	1.260	V
Minimum Operating Current	I_{Rmin}		–	8.0	15.0	µA
		T_A = 0 to +70°C	–	–	20.0	µA
Reverse Breakdown Voltage Change with Current	$\Delta V_{(BR)R}$	$I_{Rmin} \le I_R \le 1mA$	–	–	1.0	mV
		$I_{Rmin} \le I_R \le 1mA$, T_A = 0 to +70°C	–	–	1.5	mV
		$I_{Rmin} \le I_R \le 20mA$	–	–	20.0	mV
		$I_{Rmin} \le I_R \le 20mA$, T_A = 0 to +70°C	–	–	25.0	mV

Electrical Characteristics (Cont'd): (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Dynamic Impedance	Z	I_R = 100µA	–	0.6	–	Ω
Average Temperature Coefficient	$\Delta V_{(BR)}/\Delta T$	10µA ≤ I_R ≤ 20mA, T_A = 0 to +70°C	–	80	–	ppm/°C
Wideband Noise (RMS)	n	I_R = 100µA, 10Hz ≤ f ≤ 10kHz	–	60	–	µV
Long Term Stability	S	I_R = 100µA, T_A = +25°C ±0.1°C	–	20	–	ppm/kHR

