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NTE1910
Integrated Circuit
Positive 3 Terminal Voltage Regulator, 9V, 1A

Description:

The NTE1910 is a 3 terminal fixed positive voltage regulator in a TO220 type package. Stabilized fixed output voltage is obtained from unstabe DC input voltage without the use of external components.

Features:

- No External Components
- Output Current in Excess of 1A
- Internal Short–Circuit Current Limiting
- Internal Thermal Overload Protection
- Output Transistor Safe Area Compensation

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

Input Voltage, V_I 35V

Power Dissipation, P_D 15W

Operating Ambient Temperature Range, T_{opr} . . . . . –30° to +80C

Storage Temperature Range, T_{stg} . . . . . –55° to +150C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	T_J = 25°C	8.65	9.0	9.35	V
Output Voltage Tolerance	V_O	V_I = 12V to 24V, I_O = 5mA to1A, T_J = 0° to +125°C, $P_D \le$ 15W	8.55	–	9.45	V
Line Regulation	REG_{IN}	V_I = 11.5V to 26V, T_J = 25°C	–	7	180	mV
		V_I = 12V to 18V, T_J = 25°C	–	2	90	mV
Load Regulation	REG_L	I_O = 5mA to 1.5A, T_J = 25°C	–	12	180	mV
		I_O = 250mA to 750mA, T_J = 25°C	–	4	90	mV
Bias Current	I_{BIAS}	T_J = 25°C	–	3.9	8.0	mA
Input Bias Current Change	$\Delta I_{BIAS(IN)}$	V_I = 11.5V to 26V, T_J = 25°C	–	–	1	mA

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Load Bias Current Change	$\Delta I_{BIAS(L)}$	I_O = 5mA to 1.5A, T_J = 25°C	–	–	0.5	mA
Output Noise Voltage	V_{no}	f = 10Hz to 100kHz	–	57	–	µV
Ripple Rejection Ratio	RR	V_I = 12V to 22V, I_O = 100mA, f = 120Hz	56	–	–	dB
Minimum Input/Output Voltage Difference	$V_{DIF(min)}$	I_O = 1A, T_J = 25°C	–	2	–	V
Output Impedance	Z_O	f = 1kHz	–	16	–	mΩ
Output Short Circuit Current	$I_{O(short)}$	V_I = 26V, T_J = 25°C	–	700	–	mA
Peak Output Current	$I_{O(peak)}$	T_J = 25°C	–	2	–	A
Output Voltage Temperature Coefficient	$\Delta V_O/T_A$	I_O = 5mA, T_J = 0° to +125°C	–	–0.5	–	mV/°C

Note 1. The specified condition, T_J = +25°C, means that the test should be carried out with the test time so short (within 10ms) that the drift in characteristic value due to the rise in chip junction temperature can be ignored.

Note 2. When not specified, V_I = 15V, I_O = 500mA, C_I = 0.33µf, and C_O = 0.1µf.