ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089
http://www.nteinc.com

NTE1979
Integrated Circuit
Negative 3 Terminal Voltage Regulator, –8V, 100mA

Description:

The NTE1979 is a 3–terminal fixed negative output voltage regulatgor in a TO92 type package designed for use in power circuits with current capacity up to 100mA. Stabilized fixed output voltage is obtained from unstable DC input voltage without the use of external components.

Features:

- No External Components
- Output Current in Excess of 100mA
- Built–In Short–Circuit Current Limiting
- Built–In Thermal Overload Protection

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

Input Voltage, V_I . . . . . –35V
Power Dissipation (Note 1), P_D 650mW
Operating Ambient Temperature Range, T_{opr} . . . . . –20° to +80°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C

Note 1. When T_J exceeds +150°C, the internal circuit cuts off the output.

Electrical Characteristics: (T_A = +25°C, V_I = –14V, I_O = 40mA, C_i = 2µF, C_o = 1µF unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	T_J = +25°C	–7.68	–8.0	–8.32	V
Output Voltage Tolerance	V_O	V_I = –11V to –23V, I_O = 1mA to 70mA, T_J = 0° to +125°C	–7.6	–	–8.4	V
Line Regulation	REG_{IN}	V_I = –10V to –24V, T_J = +25°C	–	–	160	mV
		V_I = –11V to –21V, T_J = +25°C	–	–	80	mV
Load Regulation	REG_L	I_O = 1mA to 100mA, T_J = +25°C	–	15	80	mV
		I_O = 1mA to 40mA, T_J = +25°C	–	7	40	mA

Note 2. 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.

Electrical Characteristics (Cont'd): (T_A = +25°C, V_I = –14V, I_O = 40mA, C_i = 2µF, C_o = 1µF unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Bias Current	I_{BIAS}	T_J = +25°C	–	3	5	mA
Input Bias Current Fluctuation	$\Delta I_{BIAS(IN)}$	V_I = –11V to –23V, T_J = +25°C	–	–	0.5	mA
	$\Delta I_{BIAS(L)}$	I_O = 1mA to 40mA, T_J = +25°C	–	–	0.1	mA
Output Noise Voltage	V_{no}	f = 10Hz to 100kHz, T_A = +25°C	–	52	–	µV
Ripple Rejection Ratio	RR	V_I = –11V to –21V, f = 120Hz, T_A = +25°C	54	–	–	dB
Minimum I/O Voltage Difference	$V_{DIF(min)}$	T_J = +25°C	–	0.8	–	V
Output Short Circuit Current	$I_{O(Short)}$	V_I = –35V, T_J = +25°C	–	200	–	mA
Output Voltage Temperature Coefficient	$\Delta V_O/T_A$	I_O = 5mA, T_J = 0° to +125°C	–	–0.6	–	mV/°C

Note 2. 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.