

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

#### **Description:**

The NTE1979 is a 3-terminal fixed negative output voltage regulator 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

#### <u>Absolute Maximum Ratings:</u> ( $T_A = +25^{\circ}C$ unless otherwise specified)

Input Voltage, V <sub>I</sub>	
Power Dissipation (Note 1), P <sub>D</sub>	650mW
Operating Ambient Temperature Range, Topr	–20° to +80°C
Storage Temperature Range, T <sub>stg</sub>	–55° to +150°C
Note 4 When T eveneda 145000 the internal singuit suits off the autout	

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

# <u>Electrical Characteristics</u>: $(T_A = +25^{\circ}C, V_I = -14V, I_O = 40mA, C_i = 2\mu F, C_o = 1\mu F unless otherwise specified)$

Parameter	Symbol	Test Conditions	Min	Тур	Мах	Unit
Output Voltage	V <sub>O</sub>	$T_J = +25^{\circ}C$	-7.68	-8.0	-8.32	V
Output Voltage Tolerance	V <sub>O</sub>	$V_I = -11V$ to $-23V$ , $I_O = 1mA$ to 70mA, $T_J = 0^{\circ}$ to $+125^{\circ}C$	-7.6	-	-8.4	V
Line Regulation	REG <sub>IN</sub>	$V_{I} = -10V$ to $-24V$ , $T_{J} = +25^{\circ}C$	-	-	160	mV
		$V_{I} = -11V$ to $-21V$ , $T_{J} = +25^{\circ}C$	-	-	80	mV
Load Regulation	REGL	$I_O = 1$ mA to 100mA, $T_J = +25^{\circ}C$	-	15	80	mV
		$I_{O}$ = 1mA to 40mA, $T_{J}$ = +25°C	_	7	40	mA

Note 2. The specified condition  $T_J = +25^{\circ}C$  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):** 

):  $(T_A = +25^{\circ}C, V_I = -14V, I_O = 40mA, C_i = 2\mu F, C_o = 1\mu F$ unless otherwise specified)

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

Note 2. The specified condition  $T_J = +25^{\circ}C$  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.



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