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NTE804 Integrated Circuit Dual Audio Power Amp, 2W

Description:

The NTE804 is a monolithic dual power amplifier which offers high quality performance for stereo phographs, tape players, recorders and AM-FM stereo receivers, etc.

The NTE804 will deliver 2W/channel into 8 or 16Ω loads. The amplifier is designed to operate with a minimum of external components and contains an internal bias regulator to bias each amplifier. Device overload protection consists of both internal current limit and thermal shutdown.

Features:

- $A_{VO} = 90\text{dB Typ}$
- 2W Per Channel
- 70dB Ripple Rejection
- 75dB Channel Separation
- Internal Stabilization
- Self Centering Biasing
- $3\text{M}\Omega$ Input Impedance
- 10-26V Operation
- Internal Current Limiting
- Internal Thermal Protection

Applications:

- Multi-Channel Audio System
- Tape Recorders and Players
- Movie Projectors
- Automotive System
- Stereo Phonographs
- Bridge Output Stages
- AM-FM Radio Receivers
- Intercoms
- Stereo Amplifiers
- Instrument Systems

Absolute Maximum Ratings:

Supply Voltage	26V
Input Voltage	$0\text{V}-V_{\text{supply}}$
Operating Temperature Range, T_{opr}	0° to $+70^{\circ}\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+150^{\circ}\text{C}$
Junction Temperature, T_{J}	$+150^{\circ}\text{C}$
Lead Temperature (During Soldering, 10sec max), T_{L}	$+300^{\circ}\text{C}$

Electrical Characteristics: ($V_S = 20V$, $T_{TAB} = +25^\circ C$, $R_L = 8\Omega$, $A_V = 50$ (34dB) unless otherwise specified)

Parameter	Test Conditions	Min	Typ	Max	Unit
Total Supply Current	$P_{OUT} = 0W$	-	15	50	mA
	$P_{OUT} = 1.5W/Ch$	-	430	500	mA
DC Output Level		-	10	-	V
Supply Voltage		10	-	26	V
Output Power	THD = < 5%	2	2.5	-	W
Total Harmonic Distortion	$P_{OUT} = 0.05W/Ch$, $f = 1kHz$	-	0.25	-	%
	$P_{OUT} = 1W/Ch$, $f = 1kHz$	-	0.07	1	%
	$P_{OUT} = 2W/Ch$, $f = 1kHz$	-	0.10	-	%
Offset Voltage		-	15	-	mV
Input Bias Current		-	100	-	nA
Input Impedance		3	-	-	M Ω
Open Loop Gain	$R_S = 0\Omega$	66	90	-	dB
Output Swing		-	$V_S - 6$	-	V_{p-p}
Channel Separation	$C_F = 250\mu F$, $f = 1kHz$	50	70	-	dB
Ripple Rejection	$f = 120Hz$, $C_F = 250\mu F$	60	70	-	dB
Current Limit		-	1.5	-	A
Slew Rate		-	1.4	-	V/ μs
Equivalent Input Noise Voltage	$R_S = 600\Omega$, 100Hz – 10kHz	-	3	-	μV_{rms}

Note 1 For operating at ambient temperatures greater than $+25^\circ C$, the NTE804 must be derated based on a maximum $+150^\circ C$ junction temperature using a thermal resistance which depends upon device mounting techniques.

Note 2 Dissipation characteristics are shown for four mounting configurations.

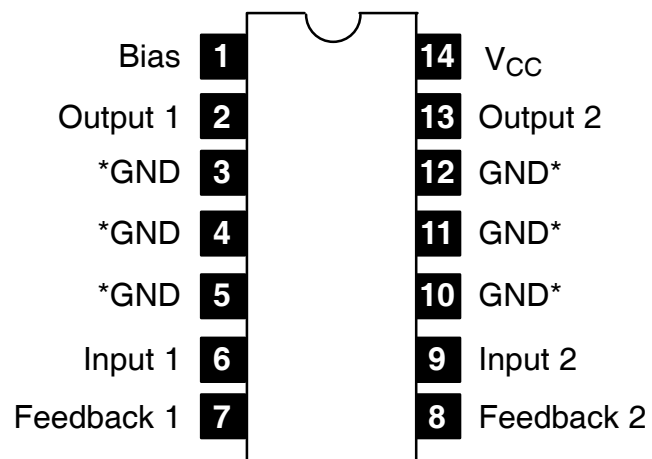
a. Infinite sink $-13.4^\circ C/W$

b. PC board $+V_7$ sink $-21^\circ C/WQ$. PC board is 2 1/2 square inches. Staver V_7 sink is 0.02 inch thick copper and has a radiating surface area of 10 square inches.

c. PC board only $-29^\circ C/W$. Device soldered to 2 1/2 square inch PC board.

d. Free air $-58^\circ C/W$.

Pin Connection Diagram



* NOTE: These leads are internally connected.

