ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

NTE812
Integrated Circuit
Audio Power Amplifier, 1W

Description:

The NTE812 is a monolithic integrated circuit in a 14–Lead DIP type package designed for use in driver and power amplifier applications at frequencies from 50Hz to 40kHz. This device will deliver up to 1W RMS output power into an 8Ω load. The high input impedance and low standby current provide excellent low–power audio output performance for portable applications. The high peak current capability can be utilized for direct driving of complementary power transistors in high power amplifier applications.

Features:

- 1 Watt RMS Power into 8Ω with THD = 0.65% Typ
- Peak Output Current: 1A
- Wide Supply Voltage Range: 4V to 13V
- High Input Impedance

Applications:

- Radios
- Phonographs
- Portable Communications Receivers
- Complementary Power Amplifier Drivers
- Servo Drivers

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

Supply Voltage (Note 1), V_{CC} 15V
Output Current, I_O 1A
Continuous Power Dissipation ($T_A \le$ +25°C, Note 2), P_D 1.1W
Derate Above 25°C . . . . . 14.7mW/°C
Operating Ambient Temperature Range, T_{opr} . . . . . –55° to +100°C
Storage Temperature Range, T_{stg} . . . . . –65° to +150°C
Lead Temperature (During Soldering, 1/16” from case, 10sec), T_L . . . . . +260°C

Note 1. Voltage values are with respect to network GND terminal.

Note 2. This rating is valid for the condition that all pins are soldered into a printed circuit board with a 2” x 2” copper layer area of 14 mil thickness. Most of the heat is conducted to the printed circuit board copper layer through Pin8 (Input GND).

Electrical Characteristics: (T_A = +25°C, V_{CC} = 12V unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Continuous RMS Power Output	P_O	THD < 5%, R_L = 8Ω, f = 1kHz		1	–	–	W
Input Voltage	V_{in}	P_O = 1W, R_L = 8Ω, f = 1kHz		–	45	70	mV
Total Harmonic Distortion	THD	P_O = 0.05W	R_L = 8Ω, f = 1kHz	–	0.6	–	%
		P_O = 1W		–	0.65	5.0	%
Efficiency		P_O = 1W, R_L = 8Ω, f = 1kHz		–	52	–	%
Cutoff Frequency Lower		Reference P_O = 1W at 1kHz, R_L = 8Ω		–	50	–	Hz
Upper				–	40	–	kHz
Input Impedance	Z_{in}	Reference plane is test circuit input terminal	R1 = 100kΩ	80	99	–	kΩ
			R1 = 22kΩ	–	22	–	kΩ
Output Impedance	Z_{out}	Reference plane is device output terminal					Ω
Noise Output Level (Unfiltered)		Reference P_O = 1W, Input open		–	–70	–	dB
Quiescent Output Voltage		No Signal		–	6.2	–	V
Quiescent Supply Current		No Signal		–	5.5	9.0	mA

Pin Connection Diagram



