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NTE862 Integrated Circuit Audio Power Amplifier, 5W

Description:

The NTE862 is a power audio amplifier in a 14-Lead DIP type package designed for use in consumer applications. In order to hold system cost to a minimum, the gain is internally fixed at 34dB. A unique input stage allows the inputs to be ground referenced. The output is automatically self centering to one half the supply voltage.

Uses include simple phonograph amplifiers, intercoms, line drivers, teaching machine outputs, alarms, ultrasonic drivers, TV sound systems, AM-FM radio, sound projector systems, etc.

Features:

- Wide Supply Voltage Range
- Low Quiescent Power Drain
- Voltage Gain Fixed at 50
- High Peak Current Capability
- Input Referenced to GND
- High Input Impedance
- Low Distortion
- Quiescent Output Voltage is at One Half of the Supply Voltage

Absolute Maximum Ratings:

| | |
|---|----------------------------------|
| Supply Voltage, V_{CC} | 28V |
| Peak Current, I_{Cpeak} | 1.3A |
| Power Dissipation (Note 1), P_D | 1.67W |
| Input Voltage, V_{in} | $\pm 0.5V$ |
| Maximum Junction Temperature, T_J | $+150^{\circ}C$ |
| Operating Temperature Range, T_{opr} | 0° to $+70^{\circ}C$ |
| Storage Temperature Range, T_{stg} | -65° to $+150^{\circ}C$ |
| Lead Temperature (During Soldering, 10 sec.), T_L | $+260^{\circ}C$ |

Electrical Characteristics: (Note 2)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|------------------|------------|-----------------|-----|-----|-----|-----------|
| Input Resistance | Z_{IN} | | - | 150 | - | $k\Omega$ |
| Bias Current | I_{BIAS} | Inputs Floating | - | 100 | - | nA |

Note 1. The package is to be derated at $15^{\circ}C/W$ junction to heat sink pins.

Note 2. $V_+ = 22V$ and $T_A = +25^{\circ}C$ operating with a Staver V_7 heat sink for 30 seconds.

Electrical Characteristics (Cont'd): (Note 2)

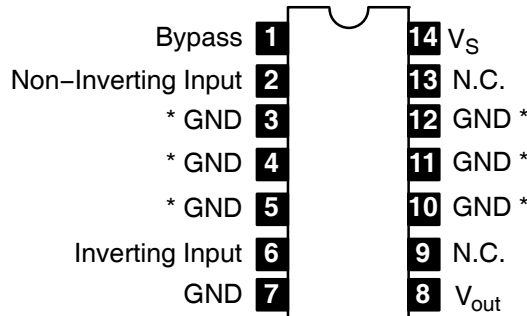
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---------------------------------------|--------------|-------------------------------|-----|------|-----|------|
| Gain | A_V | | 40 | 50 | 60 | V/V |
| Output Power | P_{OUT} | THD = 10%, $R_L = 8\Omega$ | 5 | 5.5 | - | W |
| Quiescent Supply Current | I_Q | | - | 8.5 | 25 | mA |
| Quiescent Output Voltage | V_{OUTQ} | | - | 11 | - | V |
| Bandwidth | BW | $P_{OUT} = 2W, R_L = 8\Omega$ | - | 450 | - | kHz |
| Supply Voltage | V_+ | | 12 | - | 26 | V |
| Short Circuit Current (Note 3) | I_{SC} | | - | 1.3 | - | A |
| Power Supply Rejection Ratio (Note 4) | $PSRR_{RTO}$ | | - | 31 | - | dB |
| Total Harmonic Distortion | THD | $P_{OUT} = 4W, R_L = 8\Omega$ | - | 0.25 | 1.0 | % |

Note 2. $V_+ = 22V$ and $T_A = +25^\circ C$ operating with a Staver V_7 heat sink for 30 seconds.

Note 3. Output is fully protected against a shorted speaker condition at all voltages up to 22V.

Note 4. Rejection ratio referred to the output with $C_{BYPASS} = 5\mu F$, $freq = 120Hz$.

Pin Connection Diagram



*NOTE: Heat Sink Pins

