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NTE1367
Integrated Circuit
Dual, Audio Power Amp, 2.3W to 5W
(4.6W to 15W BTL)

Description:

The NTE1367 is an integrated circuit in an 18–Lead DIP type package designed for use in audio output applications with low noise, low distortion and high output widely ranging for power supply and load resistance. Two amps are built in allowing for dual or BTL operation.

Features:

- High Output Power, Dual or BTL Operation
- Wide Output Power Settuing Range
- Wide Supply Voltage Range
- Incorprated Automatic Operating Point Stabilizer Circuit
- Low Distortion, Low 1/f Noise, and Low Shock Noise
- High Audio Channel Separation
- Incorporated Phase Converter

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

Supply Voltage, (Note 1), V_{CC} 20V
Supply Current, I_{CC} 4A
Power Dissipation (T_A = +60°C), P_D 20W
Operating Ambient temperature Range, T_{opr} . . . . . –30° to +75°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C

Note 1. V_{CC} at operation mode = 20V (stabilized power source).

Electrical Characteristics: (T_A = +25°C, V_{CC} = 9V, Note 2 unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	I_{CQ}	V_i = 0	20	32	55	mA
BTL (R_L = 8Ω, f = 1kHz)						
Voltage Gain	G_V	V_i = 4mV	46	48	50	dB
Total Harmonic Distortion	THD	V_i = 4mV	–	0.4	1.0	%
Output Power	P_O	THD = 10%	4.3	4.6	–	W
Output Noise Voltage	V_{no}	V_i = 0, R_g = 3.9kΩ	–	0.7	1.5	mV
Output Offset Voltage	$V_{O(offset)}$	V_i = 0	–100	0	+100	mV

Note 2. The value of Typ. is a reference value.

Electrical Characteristics (Cont'd): (T_A = +25°C, V_{CC} = 9V, Note 2 unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dual (R_L = 4Ω, f = 1kHz)						
Voltage Gain	G_V	V_i = 4mV	42	44	46	dB
Total Harmonic Distortion	THD	V_i = 4mV	–	0.3	1.0	%
Output Power	P_O	THD = 10%	2.0	2.3	–	W
Output Noise Voltage	V_{no}	V_i = 0, R_g = 3.9kΩ	–	0.4	1.0	mV
Channel Balance	CB	V_i = 4mV	–	0	1	dB

Note 2. The value of Typ. is a reference value.

Electrical Characteristics: (T_A = +25°C, V_{CC} = 12V, Note 2 unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	I_{CQ}	V_i = 0	20	35	60	mA
BTL (R_L = 8Ω, f = 1kHz)						
Voltage Gain	G_V	V_i = 4mV	46	48	50	dB
Total Harmonic Distortion	THD	V_i = 4mV	–	0.4	1.0	%
Output Power	P_O	THD = 10%	7.5	8.3	–	W
Output Noise Voltage	V_{no}	V_i = 0, R_g = 10kΩ	–	0.7	2.0	mV
Output Offset Voltage	$V_{O(offset)}$	V_i = 0	–100	0	+100	mV
Dual (R_L = 4Ω, f = 1kHz)						
Voltage Gain	G_V	V_i = 4mV	42	44	46	dB
Total Harmonic Distortion	THD	V_i = 4mV	–	0.3	1.0	%
Output Power	P_O	THD = 10%	3.6	4.0	–	W
Output Noise Voltage	V_{no}	V_i = 0, R_g = 3.9kΩ	–	0.5	1.5	mV
Channel Balance	CB	V_i = 4mV	–	0	1	dB

Note 2. The value of Typ. is a reference value.

Electrical Characteristics: (T_A = +25°C, V_{CC} = 13.2V, Note 2 unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	I_{CQ}	V_i = 0	20	38	60	mA
BTL (R_L = 8Ω, f = 1kHz)						
Voltage Gain	G_V	V_i = 4mV	46	48	50	dB
Total Harmonic Distortion	THD	V_i = 4mV	–	0.4	1.0	%
Output Power	P_O	THD = 10%	9.4	10	–	W
Output Noise Voltage	V_{no}	V_i = 0, R_g = 10kΩ	–	0.7	2.0	mV
Output Offset Voltage	$V_{O(offset)}$	V_i = 0	–100	0	+100	mV

Note 2. The value of Typ. is a reference value.

Electrical Characteristics (Cont'd): (T_A = +25°C, V_{CC} = 13.2V, Note 2 unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dual (R_L = 4Ω, f = 1kHz)						
Voltage Gain	G_V	V_i = 4mV	42	44	46	dB
Total Harmonic Distortion	THD	V_i = 4mV	–	0.3	1.0	%
Output Power	P_O	THD = 10%	4.5	5.0	–	W
Output Noise Voltage	V_{no}	V_i = 0, R_g = 3.9kΩ	–	0.5	1.5	mV
Channel Balance	CB	V_i = 4mV	–	0	1	dB

Note 2. The value of Typ. is a reference value.

Pin Connection Diagram