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NTE1368
Integrated Circuit
Dual Audio Power Amplifier, 5.8W/Channel

Description:

The NTE1368 is an integrated circuit in a 12–Lead SIP type package designed for dual, low–frequency, high power amplifier applications. This device requires few external components, thus enabling high density mounting. Design for heat radiation is easy due to low thermal resistance. The NTE1368 contains internal power–on pop noise protection circuitry and various other protection circuits. This device is best suited for car stereo applications.

Features:

- High Power Output
- Low Noise Output Voltage
- Low Total Harmonic Distortion
- Minimum External Components
- On–Chip Power On Pop Noise Protection Circuit
- Audio Mute Function is provided
- Separated GND Pins for Input/Output Circuit
- Various Protection Circuits:
  - Overvoltage Protection
  - Thermal Protection
  - Load Short Protection
  - Output Pin–to–DC Short Protection

Absolute Maximum Ratings: (Note 1)

Power Supply Voltage, V_{CC}
- No Signal 24V
- Operational 18V
- Surge ($t_s \le 0.2$ sec, $t_r \ge 1$msec) 40V

Output Current (Peak), I_{OPEAK} 4.5A
Power Dissipation, P_D 18W
Operating Case Temperature Range, T_C . . . . . –20° to +75°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C

Note 1. Permanent device damage may occur if “ABSOLUTE MAXIMUM RATINGS” are exceeded. Functional operation should be restricted to the conditions as detailed in the operational sections of this data sheet. Exposure to absolute maximum rating condition for extended periods may affect device reliability.

Recommended Operating Conditions:

Power Supply Voltage, V_{CC} . . . . . 8 to 16V
Operating Temperature Range, T_C . . . . . –20° to +75°C
Output Load (Dual Operation), R_L . . . . . 2Ω to 8Ω

Electrical Characteristic: (V_{CC} = 13.2V, f = 1kHz, R_L = 4Ω, T_C = +25°C, One Channel Operation unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Power Supply Current	I_Q	V_{IN} = 0V, R_L = ∞	–	80	160	mA
Voltage Gain	A_V	Po = 1W	48.5	50.5	52.5	dB
Difference Voltage Gain	ΔA_V	P_O = 1W	–	0	1.5	dB
Output Power	P_O	THD = 10%	5.0	5.8	–	W
Total Harmonic Distortion	THD	P_O = 1W	–	0.2	1.0	%
Output Noise Voltage	V_{NO}	R_g = 10kΩ, BW = 20 to 20kHz	–	0.8	1.6	mV
Input Resistance	R_{In}		20	30	–	kΩ
Cross Talk	CT	R_g = 600Ω	40	50	–	dB
Audio Mute Attenuation		R_g = 600Ω	–	40	–	dB

Pin Connection Diagram
(Front View)