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NTE7113 Integrated Circuit Dual Audio Power Amplifier, 14W BTL

Description:

The NTE7113 is an integrated circuit in a 16-Lead Staggered SIP type package designed for use as a 14W (13.2V, 4Ω) output power amplifier. Stereo operation is enabled due to incorporating two BTL amplifiers. High reliability is obtained due to incorporating protectors. ON/OFF is enabled even if power is supplied to power supply terminal by applying stand-by circuit.

Features:

- High Output Power: 14W x 2
- Incorporates Protection Circuits:
Temperature, Over-Voltage, $V_{OUT} - GND$ Short, $V_{OUT} - V_{CC}$ Short
- Low Shock Noise from Power ON/OFF Operation
- Fewer External Components
- High Stable Operation

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Supply Voltage (No Signal), V_{CC} 24V
Peak Supply Voltage (Time = 0.2s), $V_{CC(surge)}$ 50V
Supply Current, I_{CC} 6A
Power Dissipation, P_D 62.5W
Operating Ambient Temperature Range, T_{opr} -30° to $+75^\circ\text{C}$
Storage Temperature Range, T_{stg} -55° to $+150^\circ\text{C}$
Thermal Resistance, Junction-to-Case, R_{thJC} 2°C/W

Electrical Characteristics: ($V_{CC} = 13.2\text{V}$, $R_L = 4\Omega$, $f = 1\text{kHz}$, $T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	I_{CQ}	$V_{in} = 0\text{mV}$	–	120	200	mA
		Stand-by Terminal ON	–	21	–	μA
Output Noise Voltage	V_{no}	$V_{in} = 0\text{mV}$, $R_g = 10\text{k}\Omega$, Note 1	–	0.6	1.5	mV
Voltage Gain	G_v	$V_{in} = 5\text{mV}$	50.5	52.5	54.5	dB
Total Harmonic Distortion	THD	$V_{in} = 5\text{mV}$	–	0.20	0.75	%
		$V_{in} = 5\text{mV}$, $f = 100\text{Hz}$	–	0.26	–	%
		$V_{in} = 5\text{mV}$, $f = 10\text{kHz}$	–	0.45	–	%
Maximum Output Power (4Ω)	P_O	THD = 10%	9.0	12.5	–	W

Note 1. 15Hz to 30kHz (12dB/oct) With Filter

Electrical Characteristics (Cont'd): ($V_{CC} = 13.2V$, $R_L = 4\Omega$, $f = 1kHz$, $T_A = +25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Ripple Rejection Ratio	RR	$R_g = 0\Omega$, $V_{in} = 0mV$, Ripple = 300mV, $f = 120Hz$, Note 1	35	40	–	dB
Output Offset Voltage	$V_{O(offset)}$	$V_{in} = 0mV$	–300	0	+300	mV
Channel Balance	CB	$V_{in} = 5mV$	–1	0	+1	dB
Frequency Characteristics	f_{CH}	$V_{in} = 5mV$, –3dB Down	–	22	–	kHz
	f_{CL}		–	21	–	Hz
Crosstalk	CT	$V_{in} = 5mV$, $R_g = 10k\Omega$	–	61	–	dB

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