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NTE7059 Integrated Circuit Dual BTL 14W Audio Power Amplifier

Description:

The NTE7059 is an integrated circuit in a 16-Lead Staggered SIP type package designed for 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 the power supply pin by applying stand-by circuit.

Features:

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

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

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

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	I_{CQ}	$V_{in} = 0mV$	-	120	200	mA
Output Noise Voltage	V_{no}	$V_{in} = 0mV$, $R_g = 10k\Omega$, Note 1	-	0.6	1.5	mV
Voltage Gain	G_V	$V_{in} = 5mV$	50.0	52.5	54.5	dB
Total Harmonic Distortion	THD	$V_{in} = 5mV$	-	0.20	0.75	%
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, 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
Total Harmonic Distortion	THD	$V_{in} = 5mV$, 100Hz	-	0.26	-	%
		$V_{in} = 5mV$, 10Hz	-	0.45	-	%
Frequency Characteristics	f_{CH}	$V_{in} = 5mV$, -3dB down	-	22	-	kHz
	f_{CL}	$V_{in} = 5mV$, -3dB down	-	21	-	Hz
Quiescent Circuit Current at Stand-by Pin ON	$I_{CQ(STBY-ON)}$	Stand-by Pin ON	-	21	-	μA
Crosstalk	CT	$V_{in} = 5mV$, $R_g = 10k\Omega$	-	61	-	dB

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

Pin Connection Diagram



