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NTE7055 Integrated Circuit Dual Audio Power Amplifier, 2W

Description:

The NTE7055 is a dual audio power amplifier in a 14-Lead DIP type package designed for portable audio sets.

Features:

- Wide Operating Voltage Range: $V_{CC} = 3V$ to $16V$
- High Output Power: $P_O = 2W$ at $V_{CC} = 12V, R_L = 8\Omega, THD = 10\%$
 $P_O = 1.6W$ at $V_{CC} = 9V, R_L = 4\Omega, THD = 10\%$
 $P_O = 1.2W$ at $V_{CC} = 9V, R_L = 8\Omega, THD = 10\%$
 $P_O = 0.7W$ at $V_{CC} = 6V, R_L = 4\Omega, THD = 10\%$
 $P_O = 0.5W$ at $V_{CC} = 6V, R_L = 8\Omega, THD = 10\%$
 $P_O = 80mW$ at $V_{CC} = 4.5V, R_L = 32\Omega, THD = 10\%$
- High Supply Voltage Rejection: $SVR = 45dB$
- Low Quiescent Current: $I_{CC} = 12mA$
- Low Pop Noise at Power ON/OFF

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

Supply Voltage (No Signal), V_{CC1}	18V
Supply Voltage (Operating), V_{CC2}	16V
Allowable Power Dissipation (Note 1), P_D	2.4W
Operating Temperature Range, T_{opr}	-20° to $+70^\circ C$
Storage Temperature Range, T_{stg}	-40° to $+150^\circ C$

Note 1. 50 x 50 x 0.035mm copper heat sink on PCB.

Recommended Operating Conditions: ($T_A = +25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	$V_{CC(16)}$	$R_L = 16\Omega$	3	-	16	V
	$V_{CC(8)}$	$R_L = 8\Omega$	3	-	13	V
	$V_{CC(4)}$	$R_L = 4\Omega$	3	-	9	V
Load Impedance	R_L		4	8	-	Ω
Voltage Gain	G_V		34	44	-	dB

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC} = 9\text{V}$, $R_f = 33\Omega$, $f = 1\text{kHz}$, $R_L = 8\Omega$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	I_{CC}	No Signal	-	12	25	mA
Voltage Gain	G_{V1}	$P_O = 0.25\text{W}$, $R_f = 33\Omega$	41	44	47	dB
	G_{V2}	$P_O = 0.25\text{W}$, $R_f = 120\Omega$	-	34	-	dB
Output Power	P_{O1}	$V_{CC} = 12\text{V}$, $R_L = 8\Omega$, THD = 10%	-	2.0	-	W
	P_{O2}	$V_{CC} = 9\text{V}$, $R_L = 4\Omega$, THD = 10%	-	1.6	-	W
	P_{O3}	$V_{CC} = 9\text{V}$, $R_L = 8\Omega$, THD = 10%	0.9	1.2	-	W
	P_{O4}	$V_{CC} = 6\text{V}$, $R_L = 4\Omega$, THD = 10%	-	0.7	-	W
	P_{O5}	$V_{CC} = 6\text{V}$, $R_L = 8\Omega$, THD = 10%	-	0.5	-	W
	P_{O6}	$V_{CC} = 4.5\text{V}$, $R_L = 32\Omega$, THD = 10%	-	80	-	mW
Total Harmonic Distortion	THD1	$P_O = 0.5\text{W}$, $R_f = 33\Omega$	-	0.4	1.6	%
	THD2	$P_O = 0.5\text{W}$, $R_f = 120\Omega$	-	0.3	-	%
Output Noise Voltage	NL	$R_G = 10\text{k}\Omega$	-	0.9	1.5	mV_{rms}
Supply Voltage Rejection	SVR	$R_G = 0$, $f_{\text{ripple}} = 100\text{Hz}$, $V_{\text{ripple}} = 0.3\text{V}_{\text{rms}}$	38	45	-	dB
Crosstalk	CT	$R_G = 0$, $P_O = 0.25\text{W}$	40	55	-	dB
Channel Balance	Ch. B.	$P_O = 0.25\text{W}$	-2	0	+2	dB
Input Impedance	Z_{in}		-	5	-	$\text{M}\Omega$



