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NTE7105 Integrated Circuit Dual 10W + 10W Stereo Amplifier

Description:

The NTE7105 is an integrated circuit in an 11-Lead Staggered SIP type package designed for high quality stereo applications such as Hi-Fi and music centers.

Features:

- High Output Power: 10W + 10W Min @ THD = 1%
- High Current Capability: Up to 3.5A
- AC Short Circuit Protection
- Thermal Overload Protection
- Low Number of External Components

Absolute Maximum Ratings:

Supply Voltage, V_S	28V
Output Peak Current, I_O	
Repetitive, $f \geq 20\text{Hz}$	3.5A
Non-Repetitive, $t = 100\mu\text{s}$	4.5A
Total Power Dissipation ($T_C = +90^\circ\text{C}$), P_{tot}	20W
Operating Temperature Range, T_{opr}	-40° to $+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-40° to $+150^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_S = 24\text{V}$, $G_v = 36\text{dB}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Supply Voltage	V_S		8	-	28	V	
Quiescent Output Voltage	V_O	$V_S = 24\text{V}$	-	11.5	-	V	
Total Quiescent Drain Current	I_d	$V_S = 28\text{V}$	-	60	120	mA	
Output Power (Each Channel)	P_O	THD = 1%, $V_S = 24\text{V}$, $f = 1\text{kHz}$	$R_L = 4\Omega$	-	12.5	-	W
			$R_L = 8\Omega$	-	7.0	-	W
		$t = 40\text{Hz}$ to 12.5kHz	$R_L = 4\Omega$	10	-	-	W
			$R_L = 8\Omega$	5	-	-	W
		$V_S = 18\text{V}$, $f = 1\text{kHz}$	$R_L = 4\Omega$	-	7	-	W
			$R_L = 8\Omega$	-	4	-	W

Electrical Characteristics (Cont'd): ($T_A = +25^{\circ}\text{C}$, $V_S = 24\text{V}$, $G_V = 36\text{dB}$ unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Total Harmonic Distortion (Each Channel)	THD	f = 1kHz	$P_O = 0.1$ to 7W , $R_L = 4\Omega$	-	0.2	-	%
			$P_O = 0.1$ to 3.5W , $R_L = 8\Omega$	-	0.1	-	%
		$V_S = 18\text{V}$	$P_O = 0.1$ to 5W , $R_L = 4\Omega$	-	0.2	-	%
			$P_O = 0.1$ to 2.5W , $R_L = 8\Omega$	-	0.1	-	%
Crosstalk	CT	$R_L = \infty$, $R_g = 10\text{k}\Omega$	f = 1kHz	-	60	-	dB
			f = 10kHz	-	50	-	dB
Input Saturation Voltage (rms)	V_I			300	-	-	mV
Input Resistance	R_I	f = 1kHz, Non-Inverting Input		70	200	-	$\text{k}\Omega$
Low Frequency Roll-Off (-3dB)	f_L	$R_L = 4\Omega$		-	20	-	Hz
High Frequency Roll-Off (-3dB)	f_H	$R_L = 4\Omega$		-	80	-	kHz
Voltage Gain	G_V	f = 1kHz		35.5	36.0	36.5	dB
Closed Loop Gain Matching	ΔG_V			-	0.5	-	dB
Total Input Noise Voltage	e_N	$R_g = 10\text{k}\Omega$		-	1.5	-	μV
		$R_g = 10\text{k}\Omega$, Note 1		-	2.5	8.0	μV
Supply Voltage Rejection (Each Channel)	SVR	$R_g = 10\text{k}\Omega$, $f_{\text{ripple}} = 100\text{Hz}$, $V_{\text{ripple}} = 500\text{mV}$		-	55	-	dB
Thermal Shutdown Junction Temperature	T_J			-	145	-	$^{\circ}\text{C}$

Note 1. 22Hz to 22kHz



