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NTE7105
Integrated Circuit
Dual 10W + 10W Stereo Amplifier

Description:
The NTE7105 is an integrated circuit in aa 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 ≥ 20Hz 3.5A
Non–Repetitive, t = 100μs 4.5A
Total Power Dissipation (T_C = +90°C), P_{tot} 20W
Operating Temperature Range, T_{opr} . . . . . –40° to +150°C
Storage Temperature Range, T_{stg} . . . . . –40° to +150°C

Electrical Characteristics: (T_A = +25°C, V_S = 24V, G_v = 36dB unless otherwise specified)

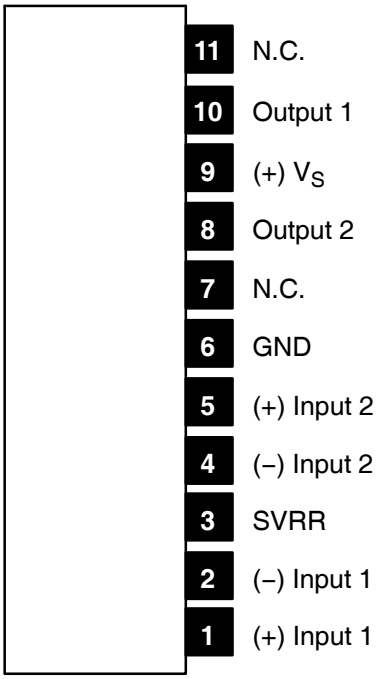
Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Supply Voltage	V_S			8	–	28	V
Quiescent Output Voltage	V_O	V_S = 24V		–	11.5	–	V
Total Quiescent Drain Current	I_d	V_S = 28V		–	60	120	mA
Output Power (Each Channel)	P_O	THD = 1%, V_S = 24V, f = 1kHz	R_L = 4Ω	–	12.5	–	W
			R_L = 8Ω	–	7.0	–	W
		t = 40Hz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

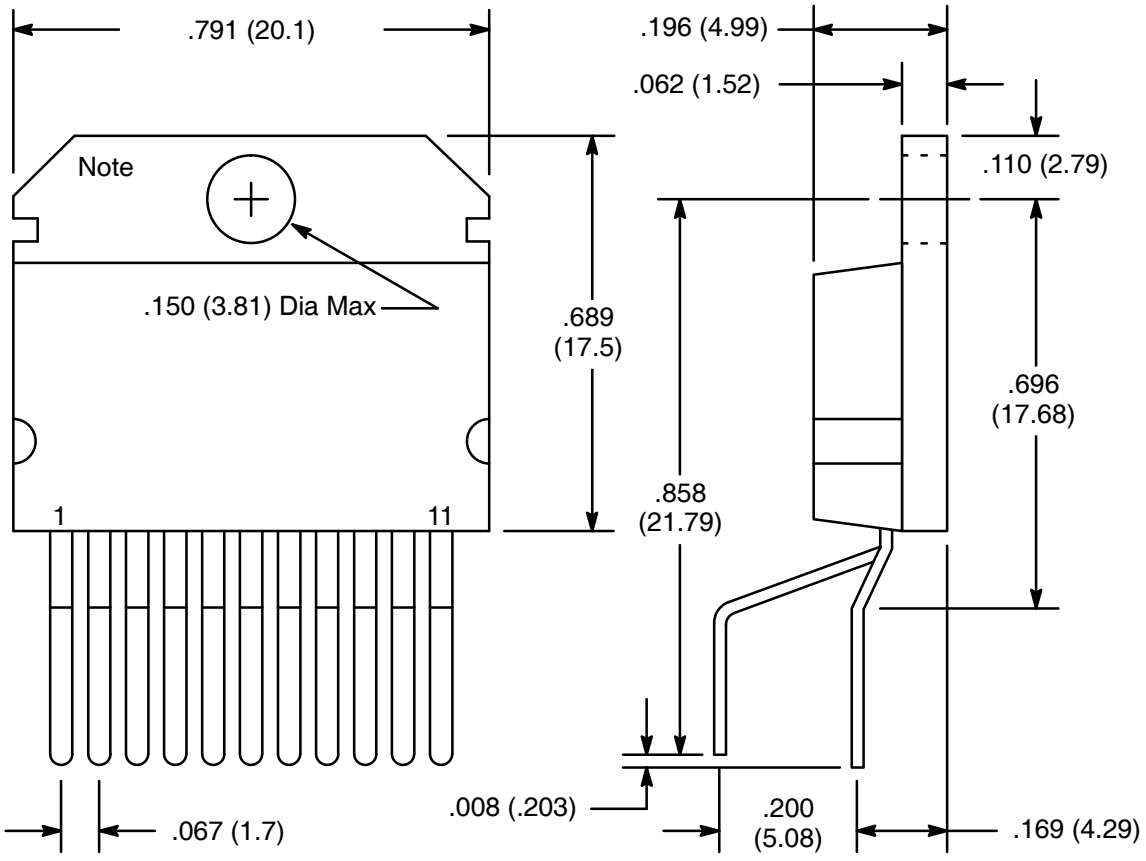
Electrical Characteristics (Cont'd): (T_A = +25°C, V_S = 24V, G_v = 36dB unless otherwise specified)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Total Harmonic Distortion (Each Channel)	THD	f = 1kHz	P_O = 0.1 to 7W, R_L = 4Ω	–	0.2	–	%
			P_O = 0.1 to 3.5W, R_L = 8Ω	–	0.1	–	%
		V_S = 18V	P_O = 0.1 to 5W, R_L = 4Ω	–	0.2	–	%
			P_O = 0.1 to 2.5W, R_L = 8Ω	–	0.1	–	%
Crosstalk	CT	R_L = ∞, R_g = 10kΩ	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	–	kΩ
Low Frequency Roll–Off (–3dB)	f_L	R_L = 4Ω		–	20	–	Hz
High Frequency Roll–Off (–3dB)	f_H	R_L = 4Ω		–	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= 10kΩ		–	1.5	–	μV
		R_g = 10kΩ, Note 1		–	2.5	8.0	μV
Supply Voltage Rejection (Each Channel)	SVR	R_g = 10kΩ, f_{ripple} = 100Hz, V_{ripple} = 500mV		–	55	–	dB
Thermal Shutdown Junction Temperature	T_J			–	145	–	°C

Note 1. 22Hz to 22kHz

Pin Connection Diagram
(Front View)





NOTE: Tab Connected to Pin6