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, $f \geq 20Hz$ 3.5A
      Non–Repetitive, $t = 100\mu s$ 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	$R_L = 4\Omega$	–	12.5	–	W
			$R_L = 8\Omega$	–	7.0	–	W
		t = 40Hz to 12.5kHz	$R_L = 4\Omega$	10	–	–	W
			$R_L = 8\Omega$	5	–	–	W
		$V_S = 18V$, f = 1kHz	$R_L = 4\Omega$	–	7	–	W
			$R_L = 8\Omega$	–	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, $R_L = 4\Omega$		–	0.2	–	%
			$P_O = 0.1$ to 3.5W, $R_L = 8\Omega$		–	0.1	–	%
		$V_S = 18V$	$P_O = 0.1$ to 5W, $R_L = 4\Omega$		–	0.2	–	%
			$P_O = 0.1$ to 2.5W, $R_L = 8\Omega$		–	0.1	–	%
Crosstalk	CT	$R_L = \infty$, $R_g = 10k\Omega$		$f = 1kHz$	–	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	–	$k\Omega$
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	$R_g = 10k\Omega$			–	1.5	–	μV
		$R_g = 10k\Omega$, Note 1			–	2.5	8.0	μV
Supply Voltage Rejection (Each Channel)	SVR	$R_g = 10k\Omega$, $f_{ripple} = 100Hz$, $V_{ripple} = 500mV$			–	55	–	dB
Thermal Shutdown Junction Temperature	T_J				–	145	–	°C

Note 1. 22Hz to 22kHz

Pin Connection Diagram
(Front View)

Pin	Function
11	N.C.
10	Output 1
9	(+) V_S
8	Output 2
7	N.C.
6	GND
5	(+) Input 2
4	(–) Input 2
3	SVRR
2	(–) Input 1
1	(+) Input 1

.791 (20.1)

Note

.150 (3.81) Dia Max

1   11

.689 (17.5)

.067 (1.7)

.196 (4.99)

.062 (1.52)

.110 (2.79)

.696 (17.68)

.858 (21.79)

.008 (.203)

.200 (5.08)

.169 (4.29)
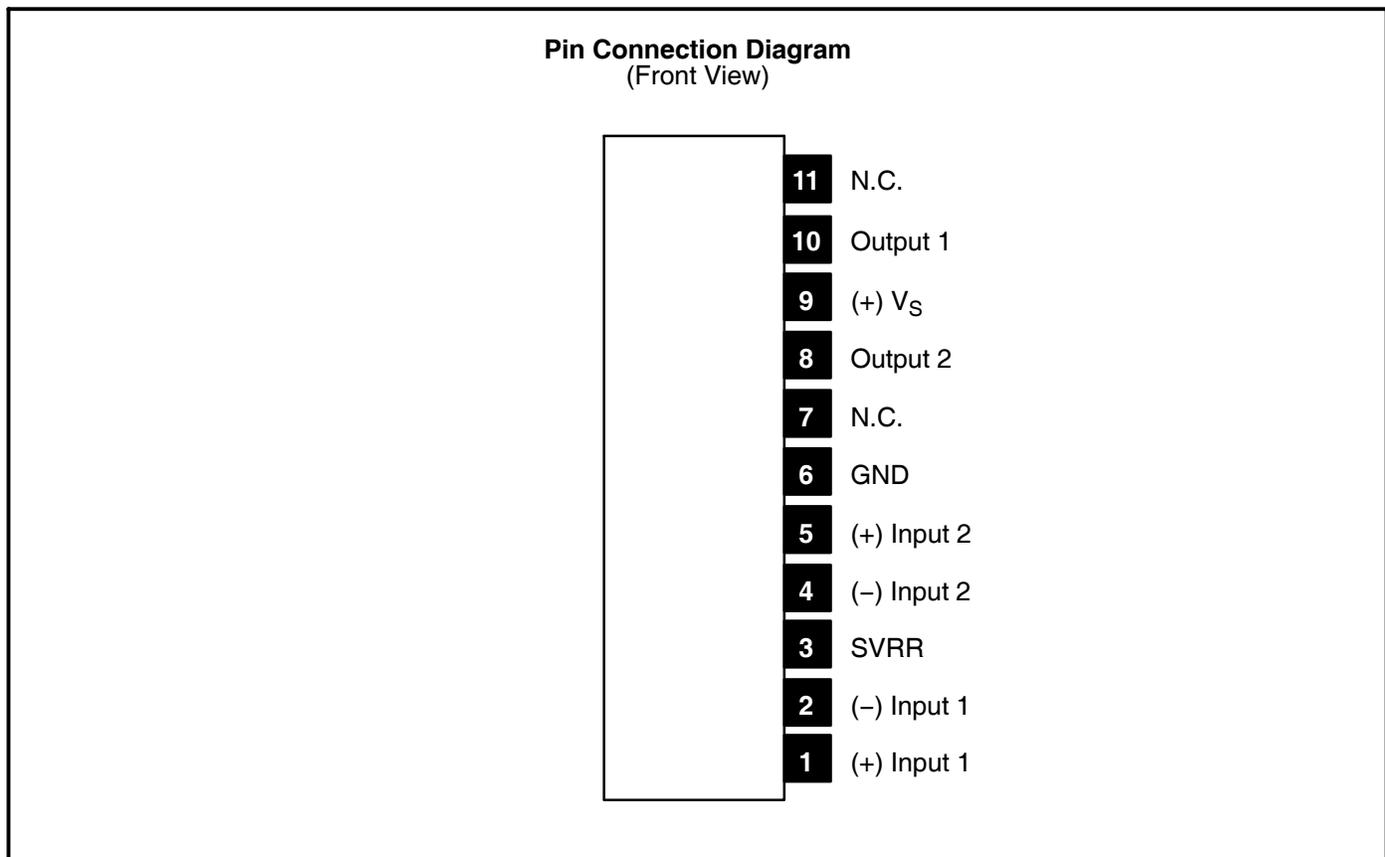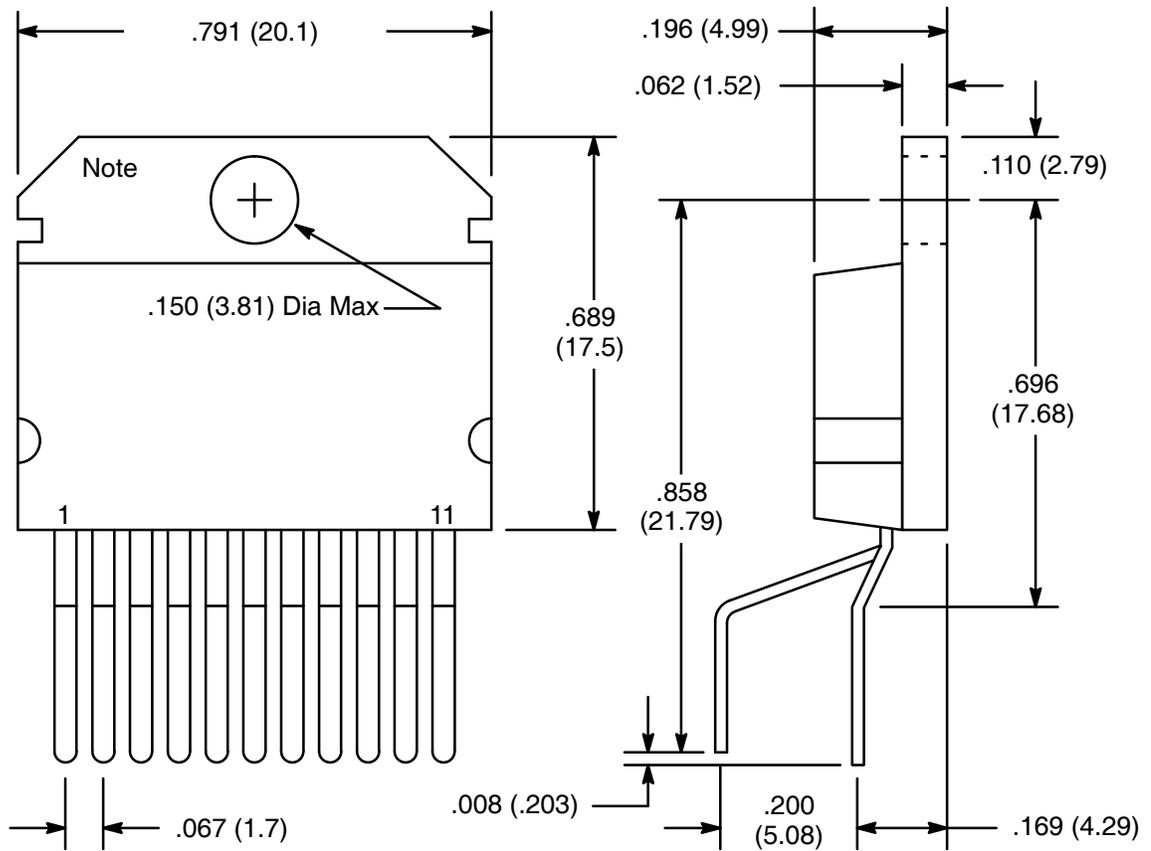
NOTE: Tab Connected to Pin6