

## NTE7041 Integrated Circuit Dual, Audio Power Amplifier, 22W BTL

**Description:**

The NTE7041 is an integrated circuit in a 17-Lead SIP type package designed for stereo audio use in car stereo applications. This device has two built-in channels to reduce the characteristic difference between L and R channels. In addition, the NTE7041 contains stand-by and muting functions and includes a variety of protection circuits.

**Features:**

- Low Thermal Resistance: Junction-to-Tab = 1.5°C/W (Infinite Heat Sink)
- High Power:  $P_{OUT(1)} = 22W/Ch$  Typ  
 $P_{OUT(2)} = 19W/Ch$  Typ
- Low Distortion Ratio: THD = 0.04% Typ
- Low Noise:  $V_{NO} = 0.3mV_{rms}$  Typ
- Built-In Stand-By Function:  $I_{SB} = 1\mu A$  Typ
- Built-In Muting Function:  $V(Mute) = 1V$  Typ
- Built-In Protection Circuits:
  - Thermal Shutdown
  - Overvoltage
  - Out →  $V_{CC}$  Short
  - Out → GND Short
  - Out-Out Short
- Operating Supply Voltage:  $V_{CC} = 9V$  to 18V

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

Peak Supply Voltage (0.2sec), $V_{CCsurge}$ .....	50V
DC Supply Voltage, $V_{CCDC}$ .....	25V
Operating Supply Voltage, $V_{CCopr}$ .....	18V
Peak Output Current, $I_{Opeak}$ .....	9A
Power Dissipation, $P_D$ .....	50W
Operating Temperature Range, $T_{opr}$ .....	-30° to +85°C
Storage Temperature Range, $T_{stg}$ .....	-55° to +150°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Supply Current	$I_{CCQ}$	$V_{IN} = 0$	–	120	250	mA
Output Power	$P_{OUT(1)}$	$V_{CC} = 14.4\text{V}$ , THD = 10%	–	22	–	W
	$P_{OUT(2)}$	THD = 10%	16	19	–	W
Total Harmonic Distortion	THD	$P_{OUT} = 1\text{W}$	–	0.04	0.4	%
Voltage Gain	$G_V$		48	50	52	dB
Output Noise Voltage	$V_{NO}$	$R_g = 0\Omega$ , BW = 20Hz to 20kHz	–	0.3	0.7	mV <sub>rms</sub>
Ripple Rejection Ratio	RR	$f_{ripple} = 100\text{Hz}$ , $R_g = 600\Omega$	40	54	–	dB
Input Resistance	$R_{IN}$		–	30	–	k $\Omega$
Output Offset Voltage	$V_{offset}$	$V_{IN} = 0$	–0.3	0	+0.3	V
Current at Stand-By State	$I_{SB}$		–	1	10	$\mu\text{A}$
Crosstalk	CT	$R_g = 600\Omega$ , $V_{OUT} = 0\text{dBm}$	–	60	–	dB
Pin4 Control Voltage	$V_{SB}$	Stand-By $\rightarrow$ OFF (Power $\rightarrow$ ON)	2.5	–	$V_{CC}$	V
Pin1 Control Voltage	V(Mute)	Mute $\rightarrow$ ON (Power $\rightarrow$ OFF)	–	1.0	2.0	V

**Pin Connection Diagram**  
(Front View)



