

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 _{rms}
Ripple Rejection Ratio	RR	$f_{ripple} = 100\text{Hz}$, $R_g = 600\Omega$	40	54	–	dB
Input Resistance	R_{IN}		–	30	–	k Ω
Output Offset Voltage	V_{offset}	$V_{IN} = 0$	–0.3	0	+0.3	V
Current at Stand-By State	I_{SB}		–	1	10	μA
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)



