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## NTE7011 Integrated Circuit 20W Audio Power Amplifier Circuit

**Description:**

The NTE7011 is an integrated circuit in a 12-Lead SIP type package designed for use as a BTL power amplifier with built-in headphone amp for portable stereo applications. Typical applications include portable component stereos, car stereo, radio cassette recorders, and TV sound multiplex output.

**Features:**

- Low Quiescent Current, Low Distortion, Low Noise, High Output Power
- Wide Supply Voltage range:  $V_{CC} = 6$  to 26V
- Built-In Muting Circuit
- Built-In Protection Circuits:  
     Temperature, Surge, Overcurrent
- Built-In Headphone Amplifier Circuit

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Supply Voltage, $V_{CC}$ .....	26V
Peak Supply Voltage, $V_{CC(\text{surge})}$ .....	50V
Supply Current, $I_{CC}$ .....	4A
Power Dissipation, $P_D$ .....	35.7W
Operating Ambient Temperature, $T_{opr}$ .....	-30° to +75°C
Storage Temperature, $T_{stg}$ .....	-55° to +150°C

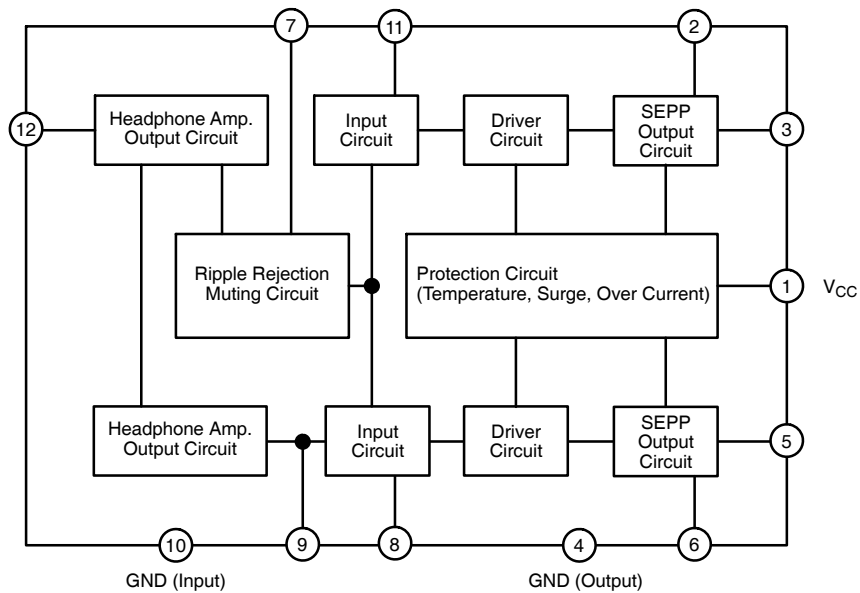
**Electrical Characteristics:** ( $V_{CC} = 15\text{V}$ ,  $f = 1\text{kHz}$ ,  $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Quiescent Circuit Current	$I_{CQ}$	$V_i = 0, R_L = 4\Omega$	-	45	75	mA
<b>Power Amplifier</b>						
Output Noise Voltage	$V_{no}$	$R_g = 10\text{k}\Omega, f = 15\text{Hz, to } 30\text{kHz}, 12\text{dB/OCT}, R_L = 4\Omega$	-	0.6	1.0	mV
Voltage Gain	$G_V$	$V_i = 5\text{mV}, R_L = 4\Omega$	48.5	50.5	52.5	dB
Total Harmonic Distortion	THD	$V_i = 5\text{mV}, R_L = 4\Omega$	-	0.15	0.5	%

**Electrical Characteristics (Cont'd):** ( $V_{CC} = 15V$ ,  $f = 1kHz$ ,  $T_A = +25^\circ C$ )

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Maximum Output Power	$P_O$	THD = 10%, $R_L = 4\Omega$	20	23	-	W
Output Offset Voltage	$V_{O(offset)}$	$R_g = 0\Omega$	-	-	150	mV
<b>Headphone Amp</b>						
Output Noise Voltage	$V_{no-H}$	$R_g = 10\Omega$ , $f = 15Hz$ , to 30kHz, 12dB/OCT, $R_L = 33\Omega$	-	0.1	1.0	mV
Voltage Gain	$G_{V-H}$	$V_i = 10mV$ , $R_L = 33\Omega$	17.5	19.5	21.5	dB
Maximum Output Power	$P_{O-H}$	THD = 1%, $R_L = 33\Omega$	10	-	-	mW

**Block Diagram**



**Pin Connection Diagram**

