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## NTE1112 Integrated Circuit Audio Power Amplifier, 4W @ 24V

**Description:**

The NTE1112 is an integrated monolithic circuit in a 14-lead DIP plastic package with external heat-sink.

**Features:**

- Output Power 2.2W (18V-16Ω)
- Low Quiescent Output Current
- High Efficiency

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

Supply Voltage, $V_{CC}$ .....	27V
Input Voltage (Note 1), $V_i$ .....	0.5V to 27V
Output Peak Current, $I_O$ .....	1A
Power Dissipation ( $T_{amb} = 25^\circ\text{C}$ ), $P_D$ .....	1.35W
Storage and Junction Temperature Range, $T_{stg}$ .....	-55 to +150°C
Thermal Resistance Junction-Case, $R_{th\ j-case}$ .....	17°C/W
Thermal Resistance Junction-Ambient, $R_{th\ j-amb}$ .....	93°C/W

Note 1. For  $V < 27V$ ,  $V_{imax} = V_s$

**Electrical Characteristics:** ( $T_{amb} = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Total Quiescent Drain Current	$I_d$	$V_s = 12V$	-	5.0	-	mA	
		$V_s = 18V$	-	6.2	-	mA	
Quiescent Drain Current of Output Transistors	$I_d$	$V_s = 12V$	-	2.0	-	mA	
		$V_s = 18V$	-	2.5	-	mA	
Drain Current	$I_d$	$d = 10\%$   $R_L = 16\Omega, P_O = 2.2W, V_S = 18V$	-	175	-	mA	
Input Bias Current	$I_b$	$V_s = 18V$	-	180	-	nA	
Output Power	$P_O$	$d = 3\%$	$V_s = 12V, R_L = 8\Omega$	-	1.0	-	W
			$V_s = 18V, R_L = 16\Omega$	-	1.7	-	W
			$V_s = 24V, R_L = 50\Omega$	-	1.25	-	W
		$d = 10\%$	$V_s = 12V, R_L = 8\Omega$	1.0	1.4	-	W
			$V_s = 18V, R_L = 16\Omega$	-	2.2	-	W
Internal Feedback Resistance	$R_F$		-	15	-	kΩ	

**Electrical Characteristics (Cont'd):** ( $T_{amb} = +25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Impedance	$Z_i$	$V_s = 18\text{V}$	-	150	-	$\text{k}\Omega$
Distortion	d	$P_o = 50\text{mW}$ , $f = 1\text{kHz}$ , $R_L = 16\Omega$ , $V_s = 18$	-	0.1	-	%
Voltage Gain	$G_V$	$R_F = 0$ , $R_L = 16\Omega$ , $V_s = 18\text{V}$	-	72	-	$\text{dB}$

**Pin Connection Diagram**  
(Front View)

