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

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

Pin Connection Diagram
(Front View)

