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NTE7220 Integrated Circuit Audio Power Amp, 70W/Ch

Description:

The NTE7220 is a class H audio power amplifier hybrid integrated circuit in an 18-Lead SIP type package that features a built-in shift power supply circuit. This device provides high efficiency audio power amplification by controlling (switching) the supply voltage supplied to the power transistors according to the detected level of the input audio signal.

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

Maximum Supply Voltage, V_{Hmax}		
No Signal	.....	±69V
Signal Present ($R_L = 8\Omega, 6\Omega$)	.....	±62V
Signal Present ($R_L = 4\Omega$)	.....	±49V
Maximum Supply Voltage, V_{Lmax}		
No Signal	.....	±44V
Signal Present ($R_L = 8\Omega, 6\Omega$)	.....	±40V
Signal Present ($R_L = 4\Omega$)	.....	±40V
Maximum Supply Voltage (No Load, Note 1), V_{H-Lmax}		60V
Maximum Junction Temperature, T_J		+150°C
Operating Substrate Temperature, T_C		+125°C
Storage Temperature Range, T_{stg}		-30° to +125°C
Thermal Resistance, Junction-to-Case (Per Power Transistor), R_{thJC}		1.9°C/W
Allowable Load Shorted Time, t_s		
($V_H = \pm 43V, V_L = \pm 30V, R_L = 8\Omega, f = 50Hz, P_O = 70W, \text{One Channel Operating}$)		..... 0.3s
Note 1. Design circuits so that ($|V_H| - |V_L|$) is always less than 40V when switching the power supply with the load connected.		

Operating Characteristics: ($T_A = +25^\circ\text{C}, R_L = 8\Omega$ (non-inductive load), $R_g = 600\Omega, V_G = 40dB, V_Z = 15V$, Note 2 unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Power	P_O	$V_H = \pm 43V, V_L = \pm 30V, f = 20Hz \text{ to } 20kHz, THD = 0.8\%$	70	-	-	W
		$V_H = \pm 34V, V_L = \pm 25V, f = 1kHz, THD = 0.8\%, R_L = 4\Omega$	-	70	-	W
Total Harmonic Distortion	THD	$V_H = \pm 43V, V_L = \pm 30V, f = 20Hz \text{ to } 20kHz, P_O = 70W$	-	0.4	-	%
Frequency Characteristics	f_L, f_H	$V_H = \pm 43V, V_L = \pm 30V, P_O = 1W, +0, -3dB$	20 to 50k			Hz
Input Impedance	r_i	$V_H = \pm 43V, V_L = \pm 30V, f = 1kHz, P_O = 1W$	-	55	-	k Ω
Output Noise Voltage	V_{NO}	$V_H = \pm 52V, V_L = \pm 34V, R_g = 2.2k\Omega, \text{Note 3}$	-	-	1.0	mV _{rms}
Quiescent Current	I_{CCO}	$V_H = \pm 52V, \text{No Load}$	-	-	30	mA
		$V_L = \pm 34V, \text{No Load}$	-	-	100	mA
Midpoint Voltage	V_N	$V_H = \pm 52V, V_L = \pm 34V$	-70	-	+70	mV

Note 2. Unless otherwise specified, a constant-voltage power supply must be used during inspection.
 Note 3. The output noise voltage rating gives the peak value read by an averaging VTVM. However, to eliminate the influence of flicker noise from the AC primary side line, use an AC stabilized power supply (50Hz).

Pin Connection Diagram
(Front View)

