ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

NTE7103
Integrated Circuit
50W to 80W Power Amplifier, Driver

Description:

The NTE7103 is an integrated monolithic circuit in a 14–Lead SIP type package designed for use in 50W to 80W class HiFi audio power amplifier applications. This device consists of an input differential amplifier, a predriver circuit, a driver circuit, and an over current protection circuit.

Features:

- Low Distortion
  0.002% Typ. (V_{CC} = ±46V, f = 1kHz, A_V = 30dB, P_O = 50W, R_L = 8Ω w/Power Transistor)
  0.006% Typ. (V_{CC} = ±46V, f = 20kHz, A_V = 30dB, P_O = 50W, R_L = 8Ω w/Power Transistor)
- Wide Frequency Band
- Wide Power Band

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Supply Voltage (Quiescent), V_{CC1} . . . . . ±65V
Supply Voltage (Operational), V_{CC2} . . . . . ±50V
Circuit Current, I_{CC}(peak) 250mA
Allowable Package Dissipation (Note 1), P_D 7.5W
Operating Temperature Range, T_{opr} . . . . . –20° to +75°C
Storage Temperature Range, T_{stg} . . . . . –40° to +150°C

Note 1. 100 x 100 x 2mm Al heat sink.

Recommended Operating Conditions:

Supply Voltage (Operational), V_{CC} . . . . . ±20 to ±46V
Input Bias Resistance, R_{IN} . . . . . 1 to 50 to 100kΩ
Power Transistor h_{FE} (P_O = 80W, R_L = 8Ω, T_J < +125°C), h_{FE} . . . . . ≤ 50
Closed Loop Voltage Gain, A_V . . . . . 26 to 30dB
Junction Temperature Range, T_J . . . . . –20° to +125°C

Electrical Characteristics: (V_{CC} = ±46V, A_v = 30dB, T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Offset Voltage	V_{offset}	V_{IN} = 0	–	±5	±50	mV
Quiescent Circuit Current	I_{CC}	V_{IN} = 0	–	20	40	mA
Maximum Output Voltage	V_{OM}	THD = 0.05%, f = 20Hz to 20kHz	25	28	–	V
Open Loop Voltage Gain	A_{vo}	V_O = 1.5V, f = 1kHz	80	95	–	dB
Output Noise Voltage	V_n	R_G = 10kΩ	–	0.07	0.14	mV
Rolloff Frequency	f_H	V_O = 1.5V, –3dB	–	900	–	kHz
Supply Voltage Rejection Ratio	SVR	R_G = 2.2kΩ, f_{ripple} = 100Hz, v_{ripple} = $1V_{rms}$	55	70	–	dB

Pin Connection Diagram
(Front View)



