

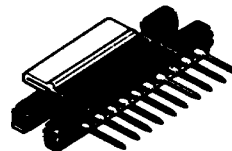
HA1374A

Dual 3 to 4W Audio Power Amplifiers

Hitachi HA1374A is a monolithic dual power amplifier designed especially for economical type stereo phonographs encapsulated in a 10-lead single-in-line plastic package. The HA1374A provides an output power of 4 watts per channel with 8 ohm load at 10 percent distortion at 17 volt power supply.

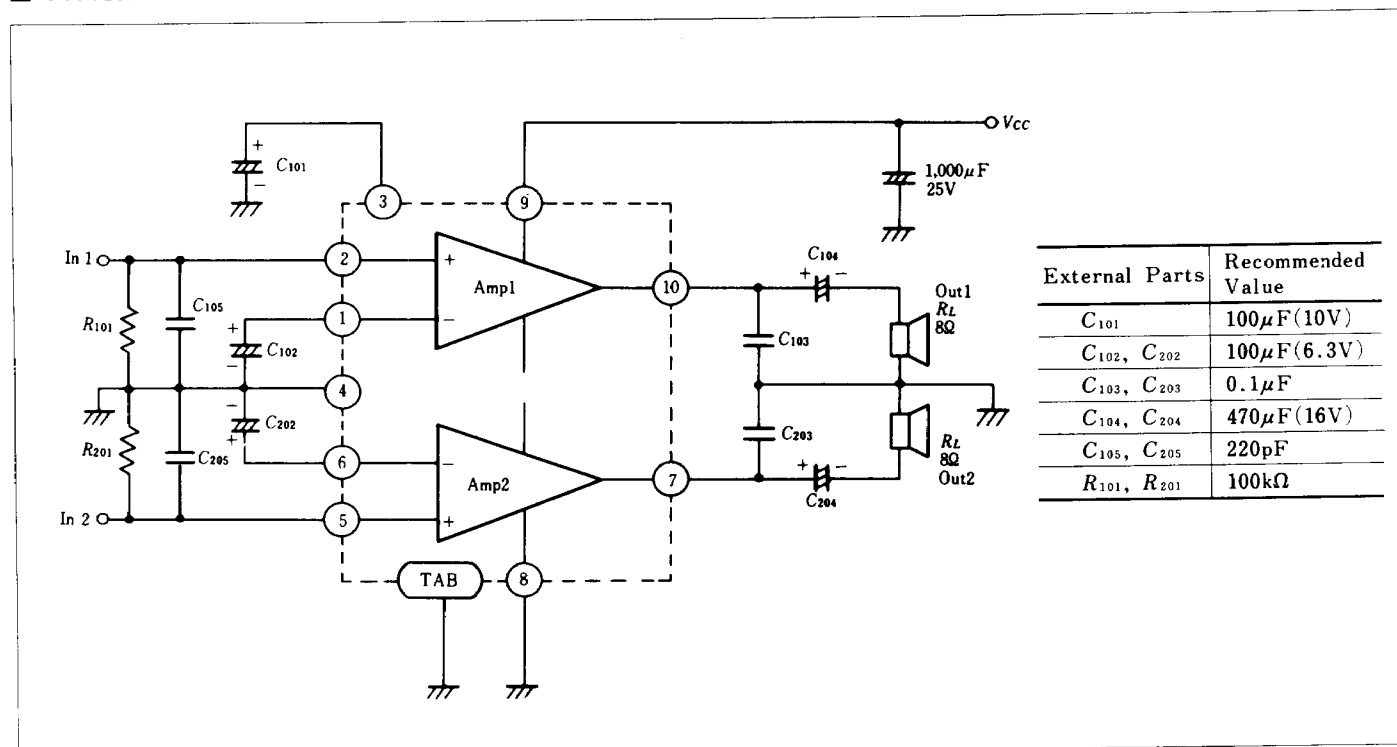
■ FEATURES

- Dual power amplifier 3 to 4 watts per channel.
- Less number of external components.
(Capacitor: 9, Resistor: 2 per 2 channel)
- Wide Supply Voltage Range: from 8 to 25V
- Internal thermal protection.
- Internal phase compensation included.
- High cross-talk: typ. 56 dB



(SP-10TA)

■ TYPICAL APPLICATION



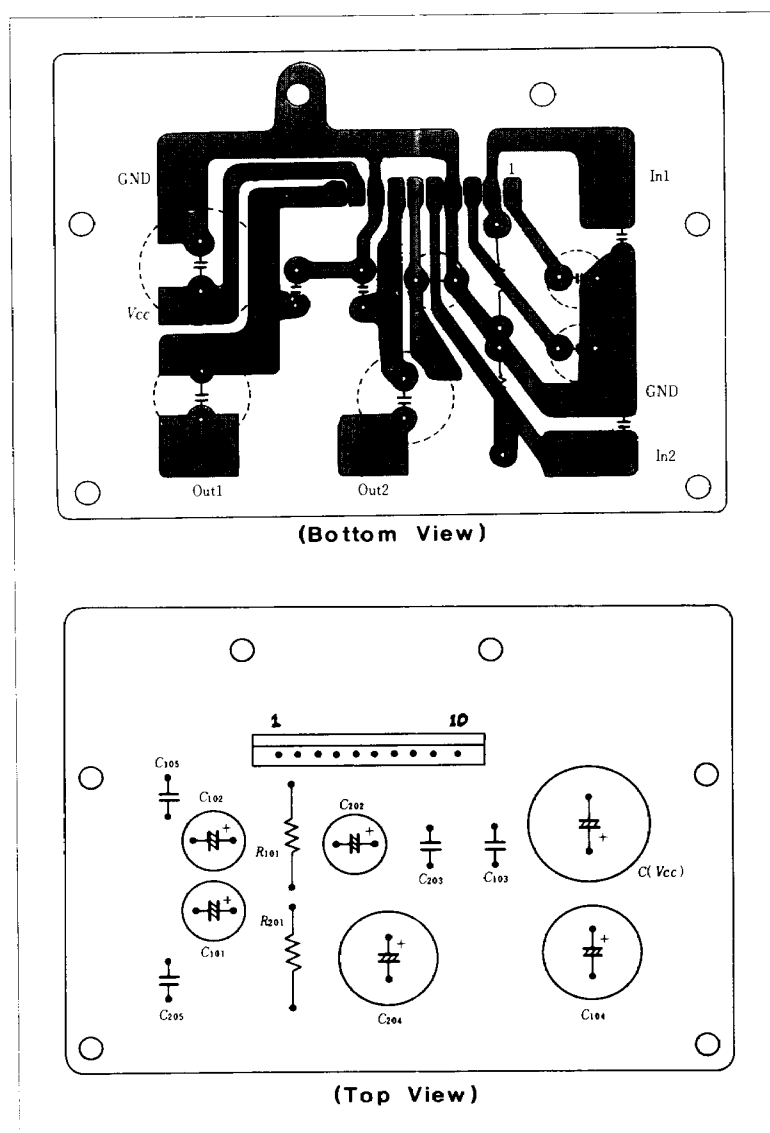
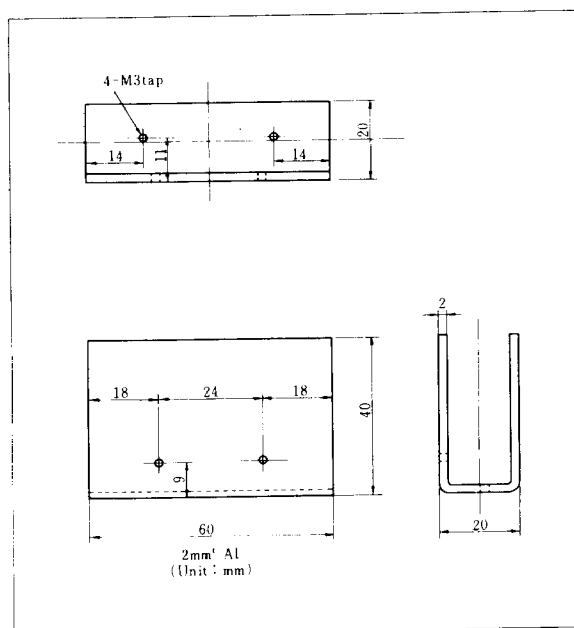
■ ABSOLUTE MAXIMUM RATINGS (T_a = 25°C)

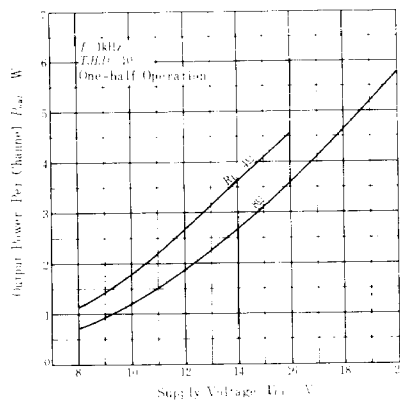
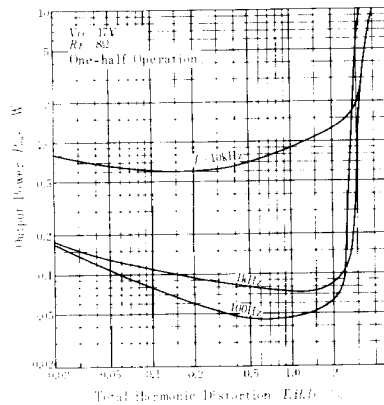
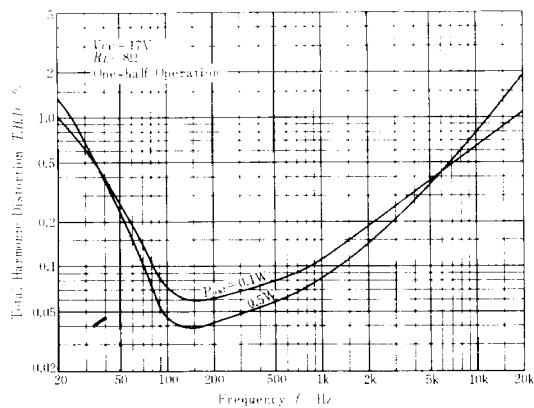
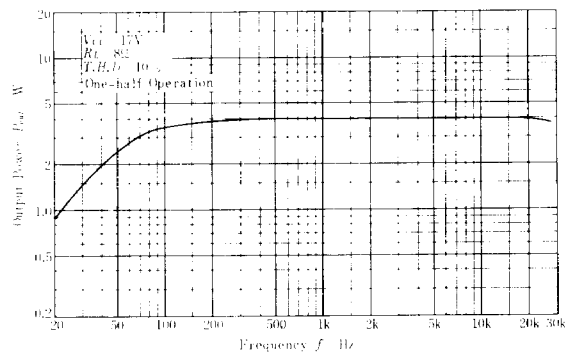
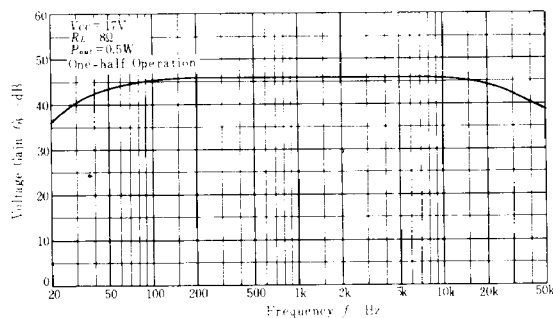
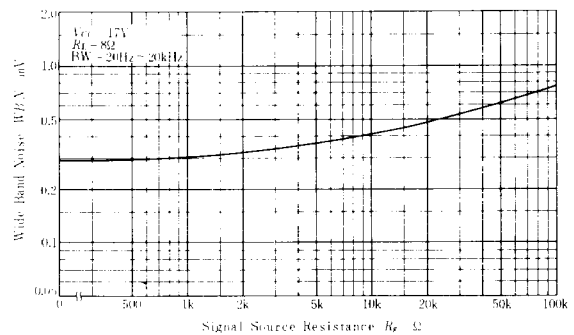
Item	Symbol	Rating	Unit
Supply Voltage	V _{CC}	25	V
Output Current per Channel	I _O	3.2	A
Power Dissipation	P _T *	7.2	W
Thermal Resistance (Junction-Case)	θ _{J-c}	10	°C/W
Junction Temperature	T _J	150	°C
Operating Temperature	T _{opr}	-20 to +70	°C
Storage Temperature	T _{stg}	-55 to +125	°C

* Value at T_c = 78°C (per package)

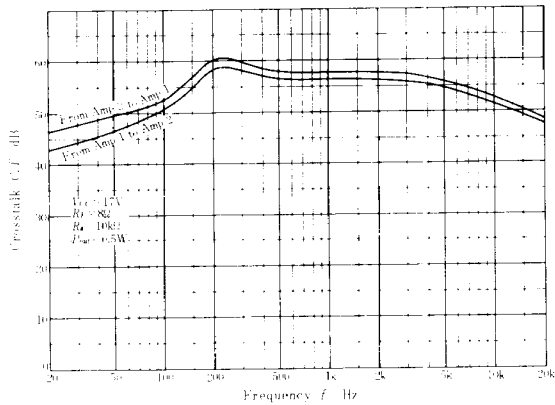
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$, $V_{CC}=17\text{V}$, $R_L=8\Omega$. One-half Operation of Dual Amplifier)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Quiescent Current	I_Q	$V_{in}=0$ (Dual total)	18	36	70	mA
Voltage Gain	G_V	$f=1\text{kHz}$	—	46	—	dB
Difference of Voltage Gain	ΔG_V	$f=1\text{kHz}$	—	—	1.5	dB
Output Power per Channel	P_{out}	$R_L=8\Omega$, $THD=10\%$	3.0	4.0	—	W
Total Harmonic Distortion	THD	$P_O=0.5\text{W}$	—	0.1	1.0	%
Noise Output	WBN	$R_g=10\text{k}\Omega$, $BW=20\text{Hz}$ to 20kHz	—	0.5	1.5	mV
Input Resistance	R_{in}	$f=1\text{kHz}$	—	100	—	$\text{k}\Omega$
Cross-Talk	$C.T$	$f=1\text{kHz}$, $R_g=10\text{k}\Omega$	40	56	—	dB
Supply Voltage Rejection Ratio	SVR	$f=100\text{Hz}$, $R_g=600\Omega$	—	40	—	dB
Rolloff Frequency	f_L	$G_V=-3\text{dB}$ from	Low	45	—	Hz
	f_H	$f=1\text{kHz}$ Ref.	High	30k	—	

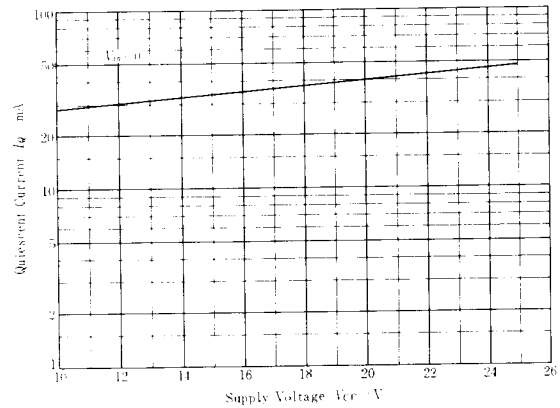
P.C. BOARD LAYOUT PATTERN

HEAT SINK


**OUTPUT POWER vs.
SUPPLY VOLTAGE**

**TOTAL HARMONIC DISTORTION
vs. OUTPUT POWER**

**TOTAL HARMONIC DISTORTION
vs. FREQUENCY**

**OUTPUT POWER vs.
FREQUENCY**

VOLTAGE GAIN vs. FREQUENCY

**WIDE BAND NOISE vs.
SIGNAL SOURCE RESISTANCE**


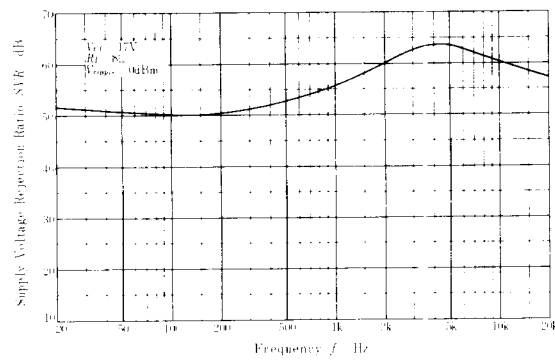
CROSSTALK vs. FREQUENCY



QUIESCENT CURRENT vs. SUPPLY VOLTAGE



SUPPLY VOLTAGE REJECTION RATIO vs. FREQUENCY



POWER DISSIPATION vs. OUTPUT POWER

