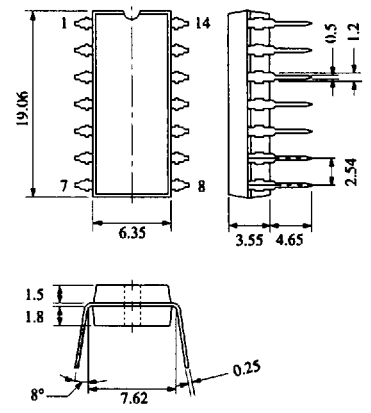
AN7312

Dual Recording / Playback Pre-Amplifier Circuit with ALC

Unit : mm



14-Lead DIL Plastic Package (14-DIP)

■ Description

The AN7312 is a monolithic integrated circuit designed for dual pre-amplifier circuit with ALC for record/playback amplifier of cassette tape recorder.

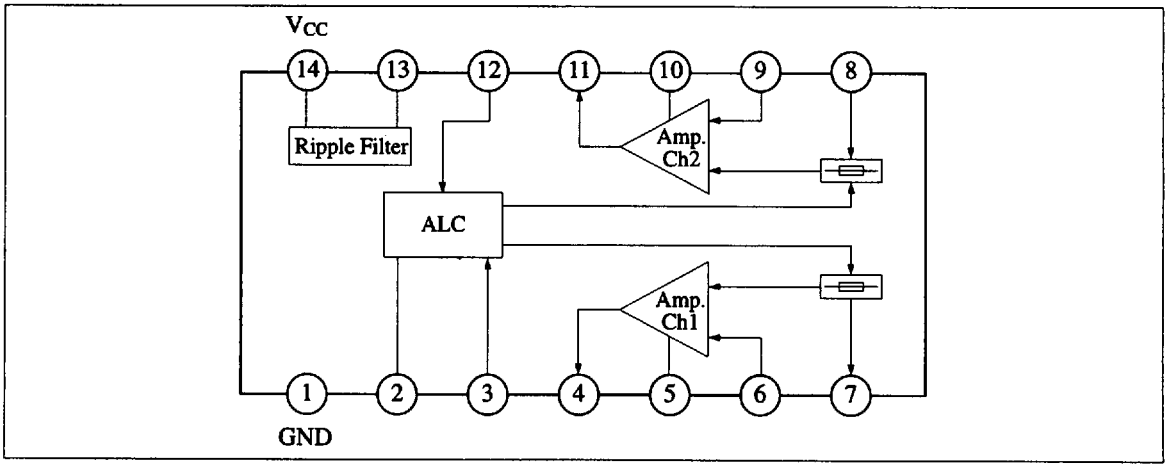
■ Features

- High open loop gain
- Incoporates ALC detector circuit
- No input coupling condenser
- Low noise
- Low current consumption
- Wide ALC range
- Wide operating voltage range: V_{CC} = 5V ~ 12V
- Low power ON shock noise

■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	GND	8	Input Ch. 2
2	ALC Time Constant	9	N.F.B. Ch. 2
3	ALC Input Ch. 1	10	Phase Compensation Ch. 2
4	Output Ch. 1	11	Output Ch. 2
5	Phase Compensation Ch. 1	12	ALC Input Ch. 2
6	N.F.B. Ch. 1	13	Ripple Filter
7	Input Ch. 1	14	V_{CC}

■ Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

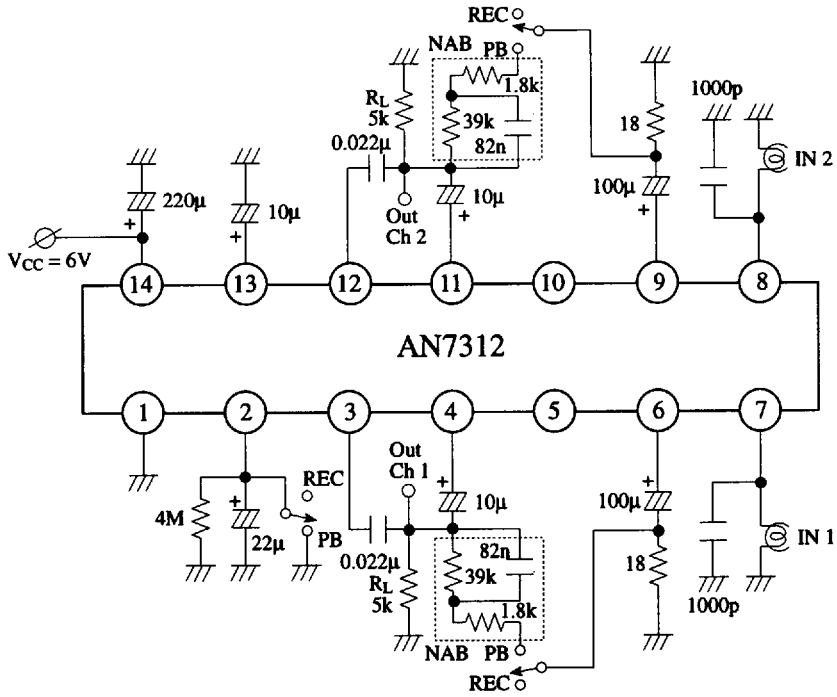
Item	Symbol	Rating	Unit
Supply Voltage	V_{CC}	14	V
Supply Current	I_{CC}	50	mA
Power Dissipation	P_D	700	mW
Operating Ambient Temperature	Topr	-20 ~ +75	°C
Storage Temperature	Tstg	-55 ~ +150	°C

Operating Supply Voltage Range: V_{CC} = 5.0V ~ 12.0V

■ Electrical Characteristics (V_{CC}=6V, f=1kHz, R_L=5.1kΩ, Ta=25±2°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Quiescent Current	I_{CQ}	V_{in} = 0μV	2.5	4.5	8.0	mA
Closed-loop Voltage Gain	G_{VC}	V_O = 0.5V	66	69	72	dB
Total Harmonic Distortion	THD	V_O = 0.5V		0.5	1.0	%
Output Voltage	V_O	THD = 1%	1.2	1.6		V
Output Noise Voltage	V_{no}	R_g = 0Ω (Internal resistance 1.5kΩ) DIN/AUDIO		2.0	5.0	mV
ALC Voltage	V_{ALC}	V_{in} = 400μV	0.55	0.63	0.7	V
ALC Width	W_{ALC}	Beginning 0dB to 3dB	35	47		dB
Channel Balance	CB	V_O = 0.5V, CB = G_{V1} - G_{V2}	-1	0	+1	dB

■ Application Circuit



■ Characteristics Curve