

## DUAL RECORDING/PLAYBACK PREAMPLIFIER CIRCUIT WITH ALC——YD7312

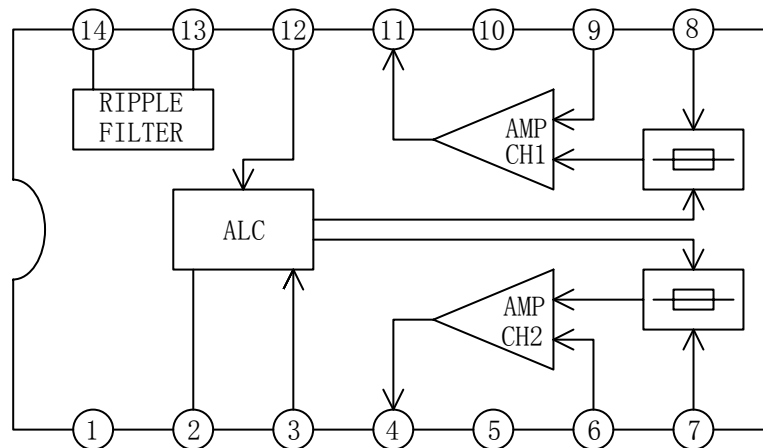
### DESCRIPTION

The YD7312 is a monolithic integrated circuit designed for dual pre-amplifier circuit with ALC for recording/playback amplifier of cassette tape recorder.

### FEATURES

- \*High open loop gain
- \*Incorporates ALC detector circuit
- \*No input coupling condenser
- \*Low noise and current consumption
- \*Wide ALC range
- \*Wide operating voltage range:  $V_{cc}=5\sim 12\text{ V}$
- \*Low power on shock noise

### BLICK DIAGRAM



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**OUTLINE FUNCTION**

| PIN | Name               | Function             | PIN | Name               | Function             |
|-----|--------------------|----------------------|-----|--------------------|----------------------|
| 1   | GND                | GND                  | 8   | IN2                | Input 2              |
| 2   | T.C <sub>ALC</sub> | ALC Time Parameter   | 9   | NF2                | Feedback 2           |
| 3   | IN <sub>ALC1</sub> | ALC Input 1          | 10  | P <sub>COM</sub>   | Phase Compensation 2 |
| 4   | OUT1               | Output 1             | 11  | OUT2               | Output 2             |
| 5   | P <sub>COM</sub>   | Phase Compensation 1 | 12  | IN <sub>ALC2</sub> | ALC Input 2          |
| 6   | NF1                | Feedback 1           | 13  | R.F.               | Ripple Filter        |
| 7   | IN1                | Input 1              | 14  | Vcc                | Voltage Supply       |

**ABSOLUTE MAXIMUM RATINGS (Tamb=25°C)**

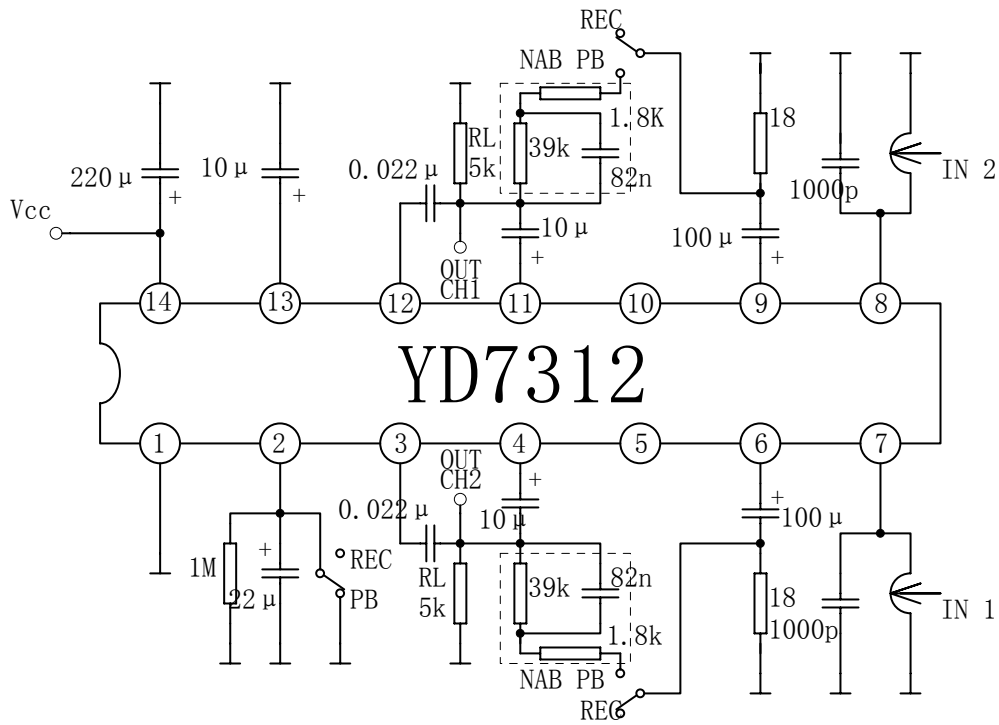
| CHARACTERISTIC        | SYMBOL | VALUE       | UNIT |
|-----------------------|--------|-------------|------|
| Supply Voltage        | Vcc    | 14          | V    |
| Supply Current        | Icc    | 50          | mA   |
| Power Dissipation     | Pd     | 700         | mW   |
| Operating Temperature | Topr   | -55 to +125 | °C   |
| Storage Temperature   | Tstr   | -65 to +150 | °C   |

**ELECTRICAL CHARACTERISTICS**

(Tamb=25°C, Vcc=6V, f=1kHz, unless otherwise specified)

| CHARACTERISTIC            | SYMBOL           | TEST CONDITION                               | MIN  | TYP  | MAX  | UNIT |
|---------------------------|------------------|--|------|------|------|------|
| Quiescent Current         | Iccq             | Vin=0  | 2.5  | 4.5  | 8.0  | mA   |
| Operating Voltage         | Vcc              |  | 5.0  |      | 12.0 | V    |
| Closed Loop Voltage Gain  | Gv               | Vo=0.5V                                      | 66   | 69   | 72   | dB   |
| Total Harmonic Distortion | THD              | Vo=0.5V                                      |      | 0.5  | 1.0  | %    |
| Output Voltage            | Vo               | THD=1%                                       | 1.2  | 1.6  |      | V    |
| Output Noise Voltage      | V <sub>NO</sub>  | Rg=0(internal resistance<br>1.5kΩ DIN/Audio) |      | 2.0  | 5.0  | mV   |
| ALC Voltage               | V <sub>ALC</sub> | Vin=400μV                                    | 0.55 | 0.63 | 0.7  | V    |
| ALC Width                 | W <sub>ALC</sub> | Beginning 0dB to 3dB                         | 35   | 47   |      | dB   |
| ALC Balance               | ΔGv              | Vo=0.5V                                      | -1   | 0    | +1   | dB   |

APPLICATION CIRCUIT



OUTLINE DRAWING

DIP-14

unit:mm

