

## DESCRIPTION

The volume controller is a basic function in an audio system, in a modern multi-channel system always needs a main volume that can adjust volume of all channels in synchronously. In traditional multi-channel design mostly utilizing a multi-gang potentiometer, but it's so expensive and not easy to achieved well volume attenuation matching between each channel.

Now a better solution is uses the PT2325 to replace the multi-gang potentiometer. The PT2325 is designed for multi-channel audio purpose, the chip has 6 groups built-in 48 steps volume attenuator for each channel and running in synchronous, it only needs an external DC voltage to setting volume attenuation. In general application, a cheap single-gang potentiometer is work well to control whole channel's volume. The DC volume setting also can be controlled by a PWM signal from the MCU and support 3.3V MCU bus voltage.

The performance of the PT2325 is excellent for the high cost/performance multi-channel audio system, its wide attenuation range (down to -100dB), high channel separation characteristics is also suite for other high quality audio purpose.

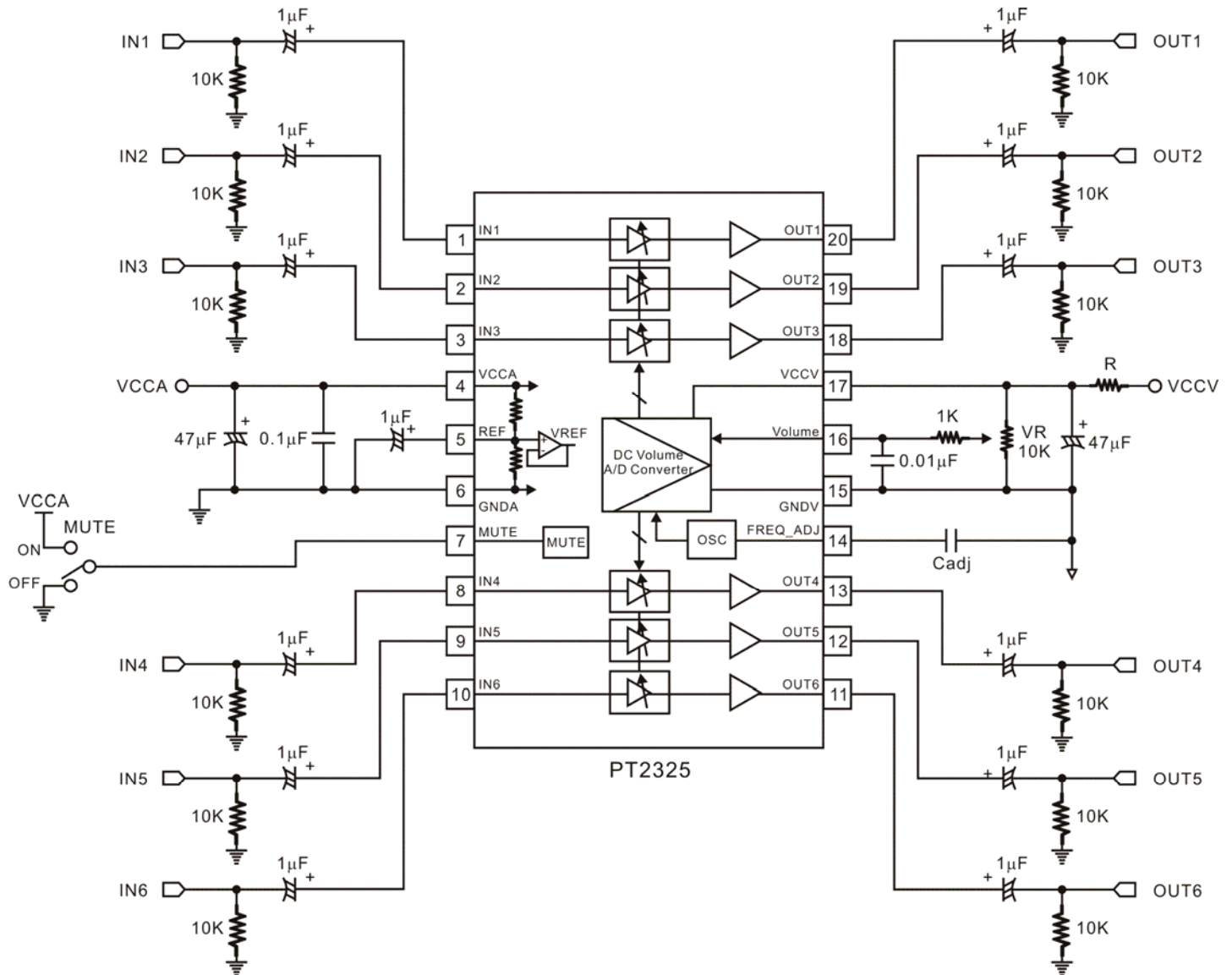
## APPLICATIONS

- AV surround system
- Mini combo
- PC multimedia speaker
- Other audio applications

## FEATURES

- 6 channels, volume control range 0 ~ -100dB/per channel
- Operating voltage range:
  - Volume buffer : 5 ~ 10V
  - Volume controller: 3.3 ~ 10V
- Low noise, High SNR: Greater than 100dB (A-Weighted)
- High channel separation > 100dB
- Built-in MUTE function
- DC controlled volume attenuation

## APPLICATION CIRCUIT



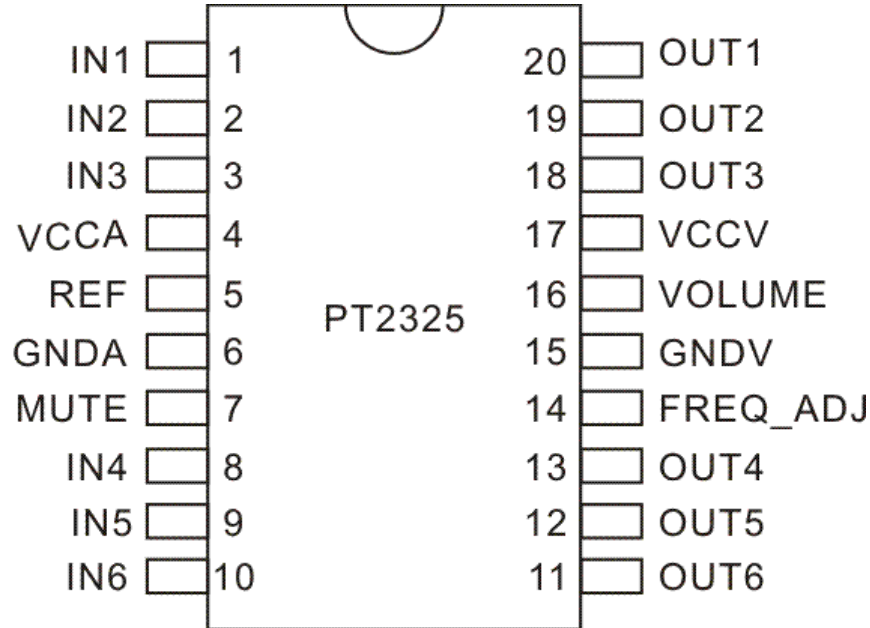
### Notes:

1. Cadj is for volume controller calibration purpose, the osc frequency is 1MHz when Cadj=100pF.
2. The DC block coupling capacitor (1μF) placed in every input and output pin must care the polarity, the positive polarity side of cap must toward the higher potential for proper operation. If not may cause abnormal pop noise during volume is changed.

## ORDER INFORMATION

| Valid Part Number | Package Type         | Top Code |
|-------------------|----------------------|----------|
| PT2325-D          | 20 Pin, DIP, 300mil  | PT2325-D |
| PT2325-X          | 20 Pin, SSOP, 150mil | PT2325-X |

## PIN CONFIGURATION



## PIN DESCRIPTION

| Pin Name | I/O | Description                                                 | Pin No. |
|----------|-----|-------------------------------------------------------------|---------|
| IN1      | I   | Channel.1 input, AC coupling to audio source                | 1       |
| IN2      | I   | Channel.2 input, AC coupling to audio source                | 2       |
| IN3      | I   | Channel.3 input, AC coupling to audio source                | 3       |
| VccA     | -   | Power Supply for internal amplifier                         | 4       |
| REF      | -   | 1/2 VccA reference bypassing, connect a capacitor to ground | 5       |
| GNDA     | -   | Ground Pin for amplifier                                    | 6       |
| MUTE     | I   | Mute pin. Connect to the VccA active the mute function      | 7       |
| IN4      | I   | Channel.4 input, AC coupling to audio source                | 8       |
| IN5      | I   | Channel.5 input, AC coupling to audio source                | 9       |
| IN6      | I   | Channel.6 input, AC coupling to audio source                | 10      |
| OUT6     | O   | Channel.6 output, AC coupling to next stage                 | 11      |
| OUT5     | O   | Channel.5 output, AC coupling to next stage                 | 12      |
| OUT4     | O   | Channel.4 output, AC coupling to next stage                 | 13      |
| FREQ_ADJ | -   | Oscillator Frequency adjustment for the volume controller   | 14      |
| GNDV     | -   | Ground Pin for the volume controller                        | 15      |
| VOLUME   | I   | DC voltage input for the volume controller                  | 16      |
| VccV     | -   | Power Supply input for the volume controller                | 17      |
| OUT3     | O   | Channel.3 output, AC coupling to next stage                 | 18      |
| OUT2     | O   | Channel.2 output, AC coupling to next stage                 | 19      |
| OUT1     | O   | Channel.1 output, AC coupling to next stage                 | 20      |



## **IMPORTANT NOTICE**

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Princeton Technology Corp.  
2F, 233-1, Baociao Road,  
Sindian, Taipei 23145, Taiwan  
Tel: 886-2-66296288  
Fax: 886-2-29174598  
<http://www.princeton.com.tw>