Tel: 886-2-66296288
Fax: 886-2-29174598
URL: http://www.princeton.com.tw

6 Channel Volume Control **PT2325**

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.

FEATURES

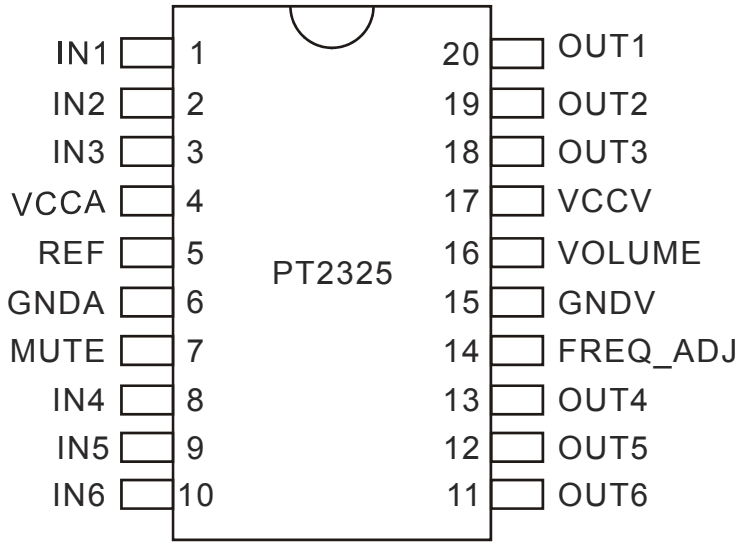
- 6 channels, volume control range 0 ~ -100dB/per channel
- Operating voltage range: 5 ~ 10V (Volume Buffer)
  3.3 ~ 10V (Volume Controller)
- Low noise, High SNR: Greater than 100dB (A-Weighted)
- High channel separation > 100dB
- Built-in MUTE function
- DC controlled volume attenuation

APPLICATIONS

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

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PIN CONFIGURATION

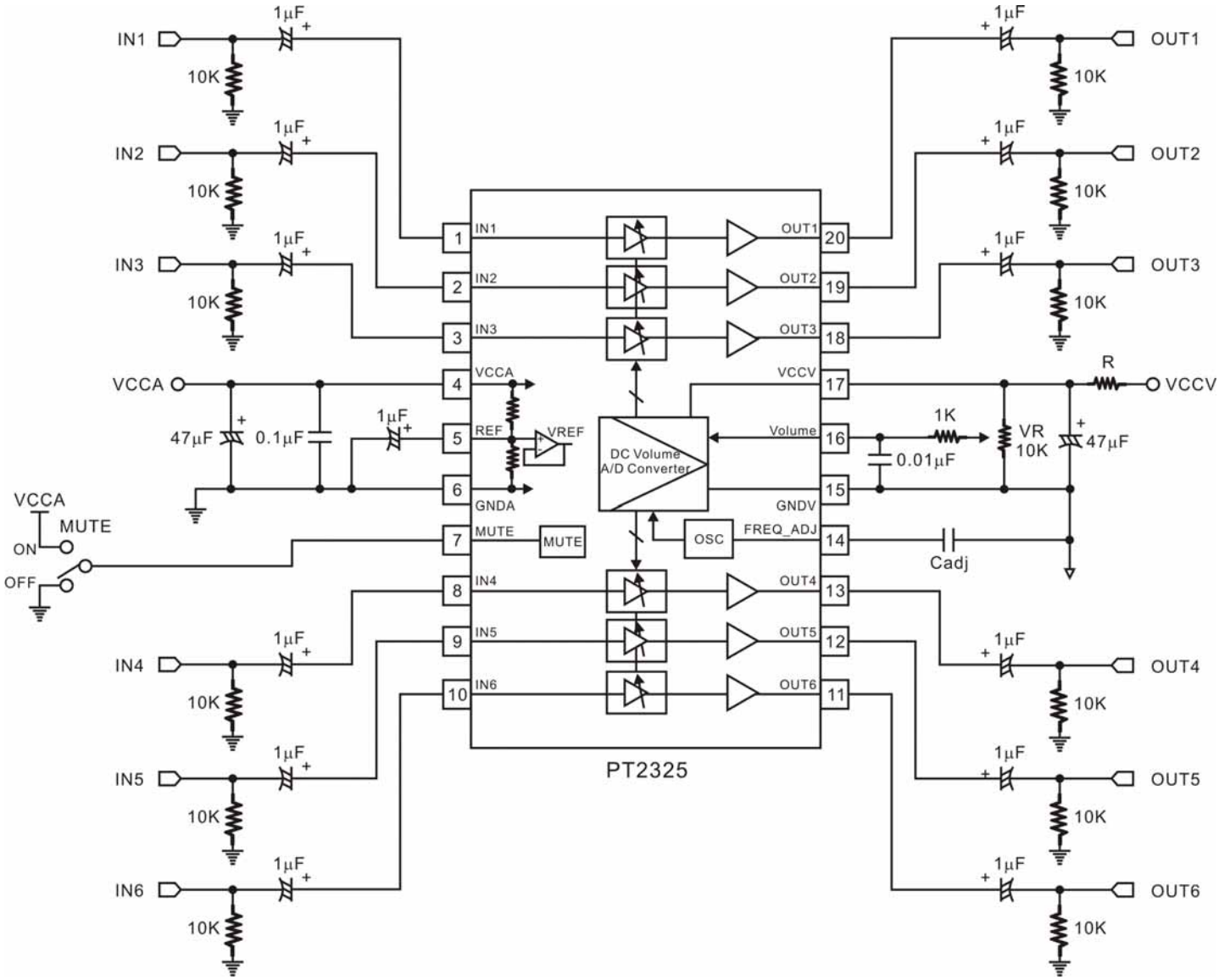


PIN DESCRIPTION

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

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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.

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ORDER INFORMATION

Valid Part Number	Package Type	Top Code
PT2325-D (L)	20 Pin, DIP, 300mil	PT2325-D

Notes:
1. (L), (C) or (S) = Lead Free.
2. The Lead Free mark is put in front of the date code.