

DESCRIPTION

The PT2033 is an audio processor designed for versatile application, it includes 3 stereo input selector with internal gain, master volume control with low frequency loudness compensation, individual channel output volume adjust and tone control.

If a system wants subwoofer signal output, traditional solution needs a lot of discrete components and OPAMP to consist of low pass filter; in the PT2033, just needs 2 capacitors only. The PT2033 combine the low pass filter inside the audio processor and user may determine low pass corner frequency by the capacitance. Broader supply range emphasis support to every application.

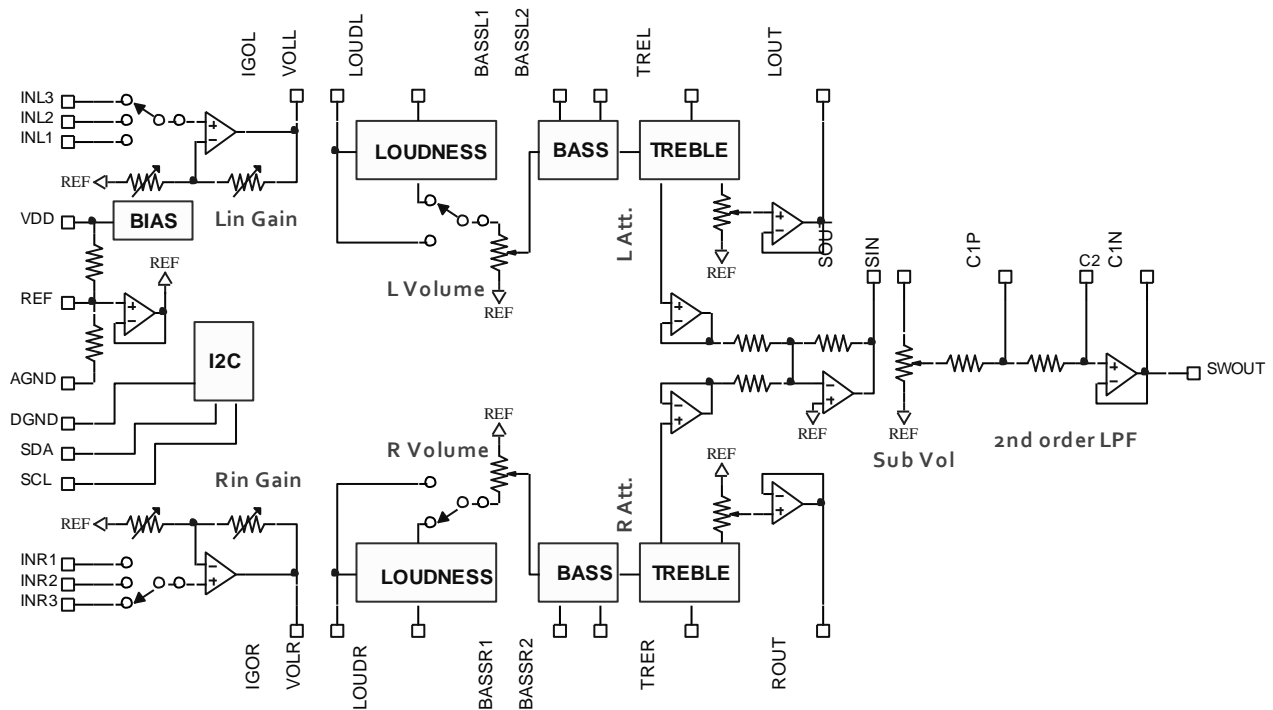
APPLICATIONS

- TV
- Mini compo
- Multimedia speaker
- Audio docking system

FEATURES

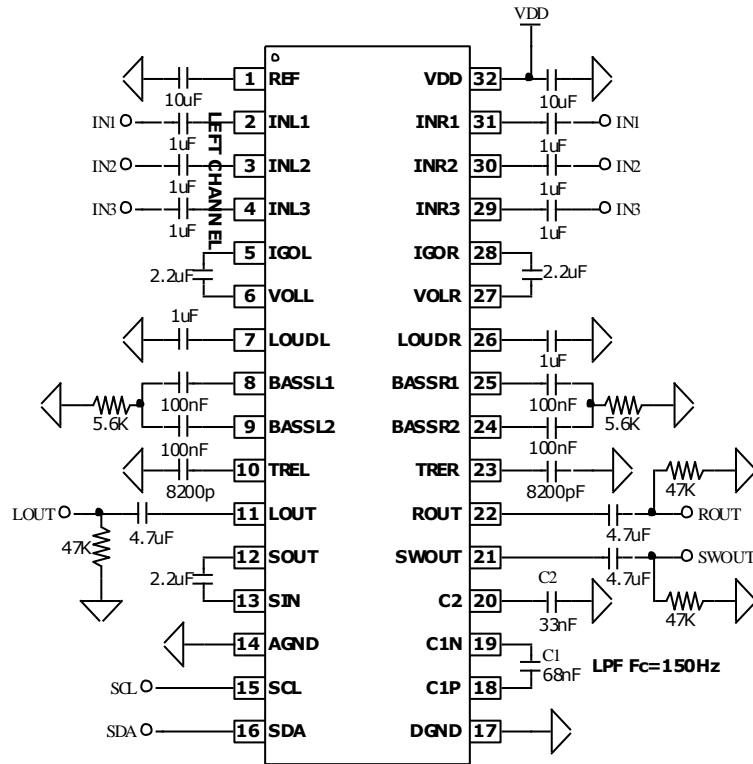
- CMOS technology
- Controlled by I²C interface
- 3 Stereo Inputs with gain selection.
- Input gain range, from 0dB to +11.25dB, 3.75dB per step
- 2 channels master volume: from 0 dB to -78.75dB, 1.25dB per step
- Built In channel mixer and lowpass filter for subwoofer output
- Subwoofer output volume : from 0dB to -37.5dB, 1.25dB per step
- Tone control (Bass and Treble): from -14dB to +14dB, 2dB per step
- Wide operation range(VDD from 4V to 10V)
- Low harmonic distortion (0.002%, Vo=200mVrms)
- Low noise and DC offset
- 32-pin SOP package

BLOCK DIAGRAM

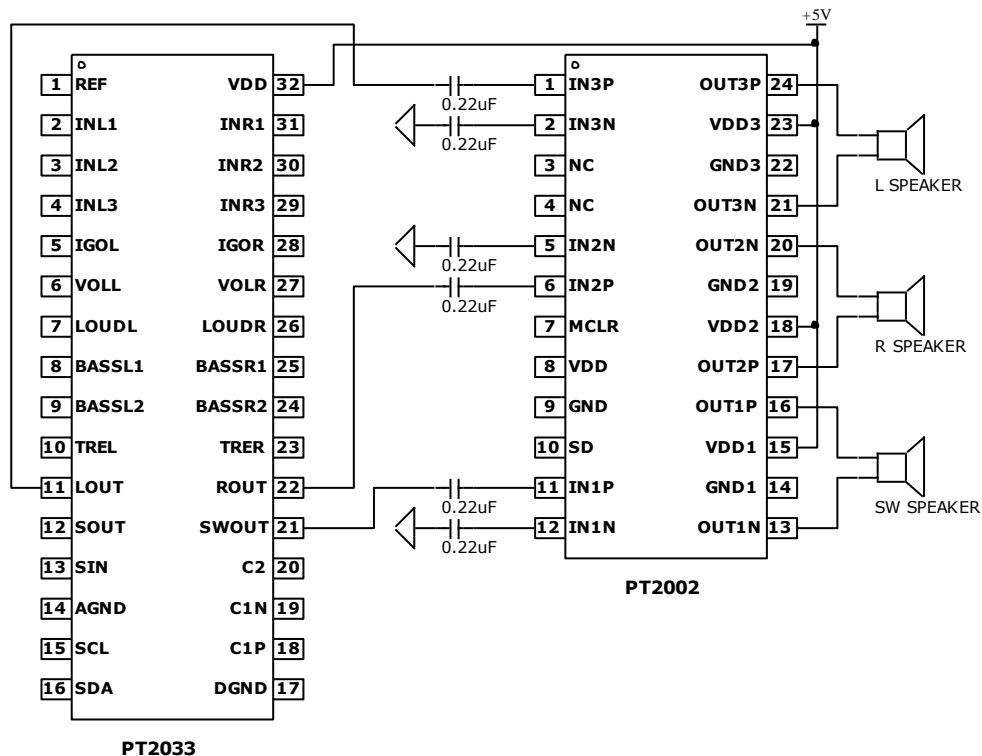


APPLICATION CIRCUIT

STANDARD APPLICATION CIRCUIT



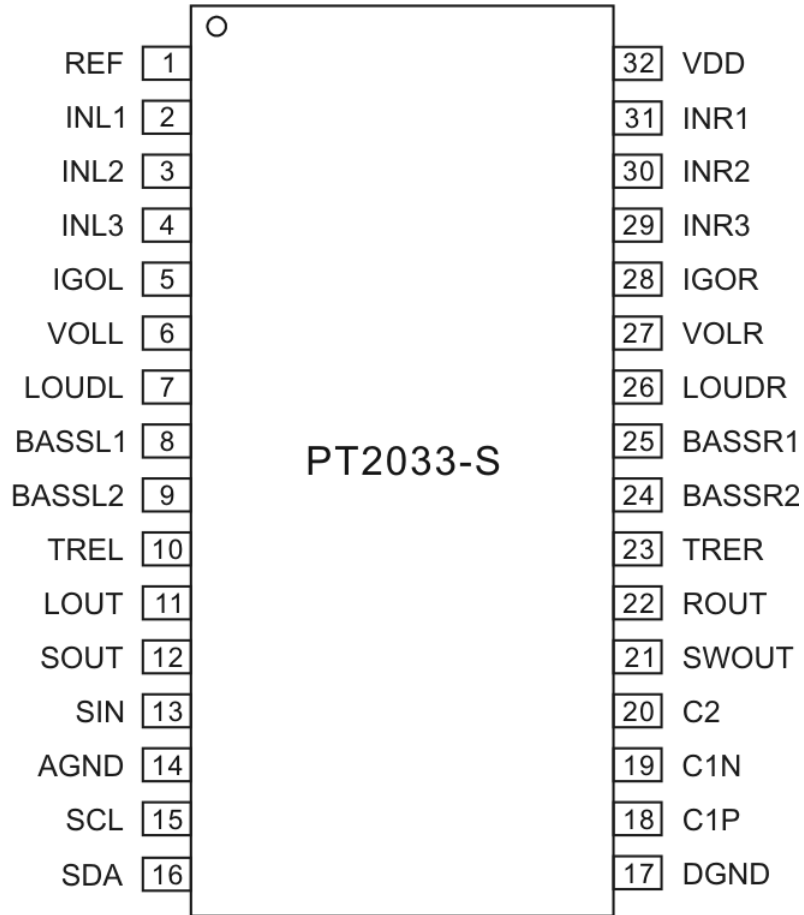
CHANNEL SPEAKER SYSTEM (WIRING SIMPLIFIED)



ORDER INFORMATION

Valid Part Number	Package Type	Top Code
PT2033-S	32 Pins, SOP, 300mil	PT2033-S

PIN CONFIGURATION



PIN DESCRIPTION

Pin Name	I/O	Description	Pin No.
REF	-	Analog reference voltage (1/2 VDD)	1
INL1	I	Left channel input 1	2
INL2	I	Left channel input 2	3
INL3	I	Left channel input 3	4
IGOL	O	Left channel buffer output	5
VOLL	I	Left channel volume controller input	6
LOUDL	I	Capacitor node for left channel loudness	7
BASSL1	I	Capacitor node 1 st for left channel bass filter	8
BASSL2	O	Capacitor node 2 nd for left channel bass filter	9
TREL	I	Capacitor node for left channel treble filter	10
LOUT	O	Left channel output	11
SOUT	O	L+R mixer (mono) output	12
SIN	I	Low pass filter input	13
AGND	I	Analog ground	14
SCL	I	I ² C clock input	15
SDA	I	I ² C data input	16
DGND	-	Digital ground, connect with AGND in shortest route.	17
C1P	I	Node P for low pass filter ext cap	18
C1N	I	Node N for low pass filter ext cap	19
C2	I	2 nd node for low pass filter ext cap	20
SWOUT	O	Subwoofer output	21
OUTR	O	Right channel output	22
TRER	I	Capacitor node for right channel treble filter	23
BASSR2	O	Capacitor node 2 nd for right channel bass filter	24
BASSR1	I	Capacitor node 1 st for right channel bass filter	25
LOUDR	I	Capacitor node for right channel loudness	26
VOLR	I	Right channel volume controller input	27
IGOR	O	Right channel buffer output	28
INR3	I	Right channel input 3	29
INR2	I	Right channel input 2	30
INR1	I	Right channel input 1	31
VDD	-	Power supply	32

IMPORTANT NOTICE

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PTC cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a PTC product. No circuit patent licenses are implied.

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