HOLTEK

Preliminary

HT82V731
Audio D/A Converter

Features

- CMOS technology
- Low power consumption
- Two voltage output channel in the same chip
- 16-bit dynamic range
- Low total harmonic distortion
- 5 voltage single power supply
- 8-pin SOP package

Applications

- Digital audio equipment
- CD ROM/VCD
- MPEG card

General Description

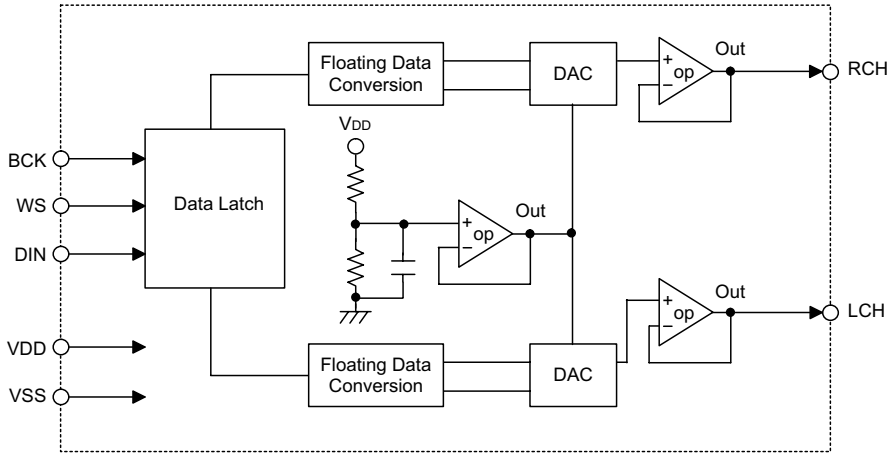
HT82V731 is a 16-bit digital-to-analog converter IC utilizing CMOS technology specially designed for stereo audio application.

HT82V731 converts the 16 bits serial data into an analog output voltage. The digital data is internally converted to floating point expression whose format consists of 10 bits mantissa and 7step exponent.

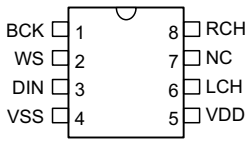
Using an R-string voltage divider, this floating point expression data is then converted to analog voltage.

It is compatible with TDA1311. It is available in 8-pin SOP package.

Block Diagram



Pin Assignment



HT82V731
– 8 SOP

Pin Description

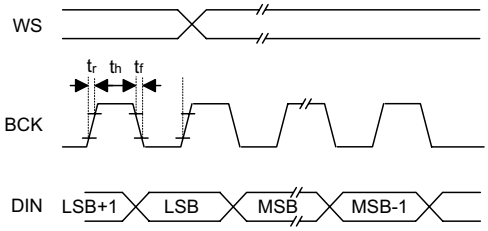
Pin No.	Pin Name	I/O	Description
1	BCK	I	Bit serial clock input
2	WS	I	Word select input
3	DIN	I	Data input
4	VSS	—	Negative power supply
5	VDD	—	Positive power supply
6	LCH	O	Left channel output
7	NC	—	No connection
8	RCH	O	Right channel output

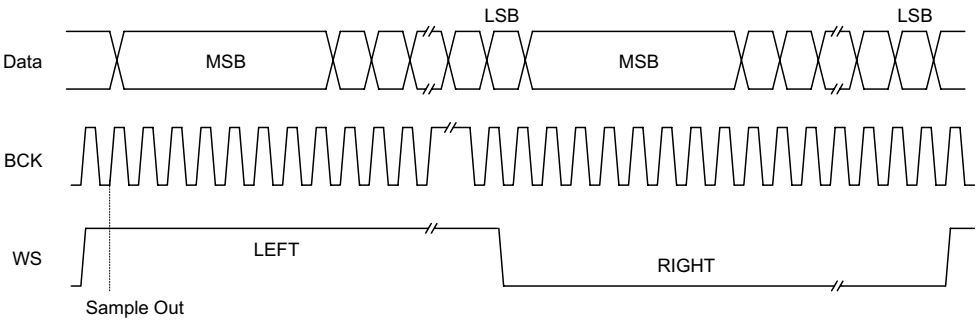
Electrical Characteristics

Ta=25°C

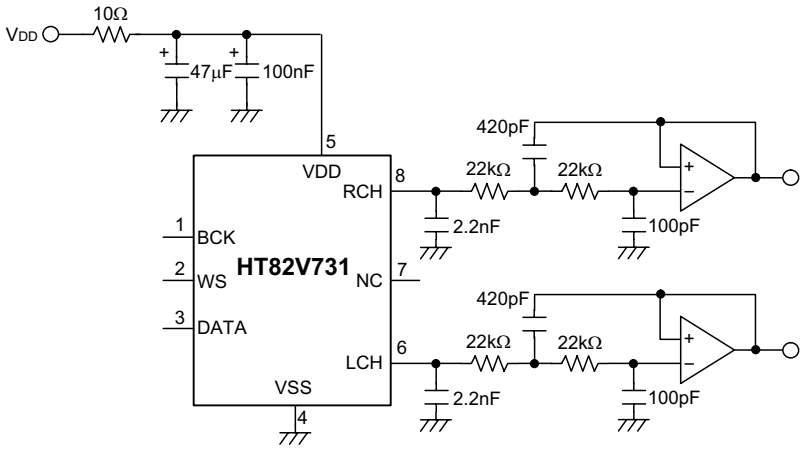
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V_{DD}	Conditions				
V_O	Maximum Output Amplitude	5V	—	—	2.5	—	Vpp
THD	Total Harmonic Distortion	5V	1kHz, 0dB	—	0.12	—	%
DR	Dynamic Range	5V	—	—	16	—	Bit
S/N	Signal to Noise Ratio	5V	1kHz, 0dB	—	82	—	dB
CT	Cross Talk	5V	1kHz, 0dB	—	—	—	dB

Timing Diagrams





Application Circuits



Holtek Semiconductor Inc. (Headquarters)
No.3 Creation Rd. II, Science-based Industrial Park, Hsinchu, Taiwan, R.O.C.
Tel: 886-3-563-1999
Fax: 886-3-563-1189

Holtek Semiconductor Inc. (Taipei Office)
5F, No.576, Sec.7 Chung Hsiao E. Rd., Taipei, Taiwan, R.O.C.
Tel: 886-2-2782-9635
Fax: 886-2-2782-9636
Fax: 886-2-2782-7128 (International sales hotline)

Holtek Semiconductor (Hong Kong) Ltd.
RM.711, Tower 2, Cheung Sha Wan Plaza, 833 Cheung Sha Wan Rd., Kowloon, Hong Kong
Tel: 852-2-745-8288
Fax: 852-2-742-8657