

16-Bit Stereo Audio D/A Converter

Features

- Wide supply voltage range: 2.4V~5.5V
- CMOS technology
- Low power consumption
- Two voltage output channel in the same chip
- 16-bit dynamic range
- Low total harmonic distortion
- Data in 2's complement format, TTL
- 8-pin SOP package

Applications

- CD ROM/VCD
- MP3/PDA/Smartphone
- Digital portable audio equipment
- Satellite/cable STB
- Motherboard/MPEG card

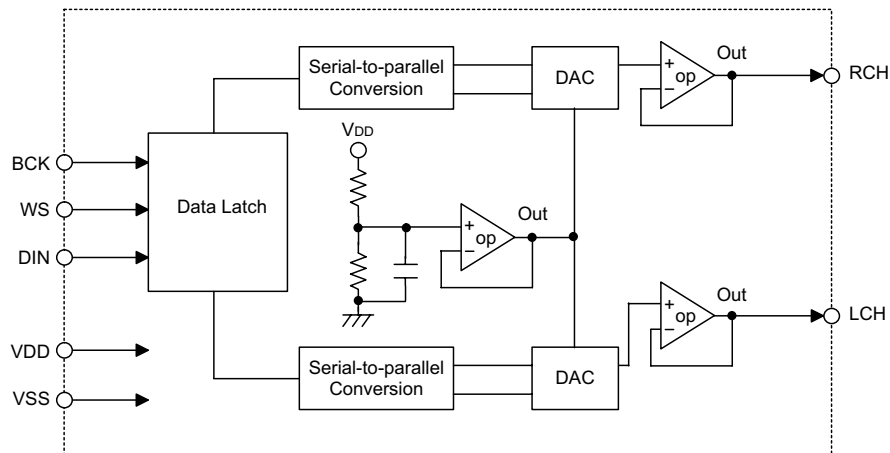
General Description

HT82V731 is a 16-bit digital-to-analog converter IC utilizing CMOS technology specially designed for stereo audio application. It converts the 16 bits serial data into an analog output voltage by high precision D/A converter.

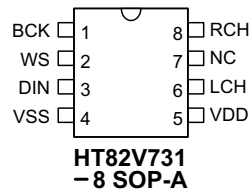
With its excellent frequency response characteristics, the HT82V731 provides users a low cost means of im-

plementing high quality audio voltage outputs. Besides, its wide supply voltage range from 2.4V to 5.5V makes the device also suitable for use in battery-powered systems or in application areas with low current consumption requirements. It is compatible with TDA1311 and available in 8-pin SOP package.

Block Diagram



Pin Assignment



Pin Description

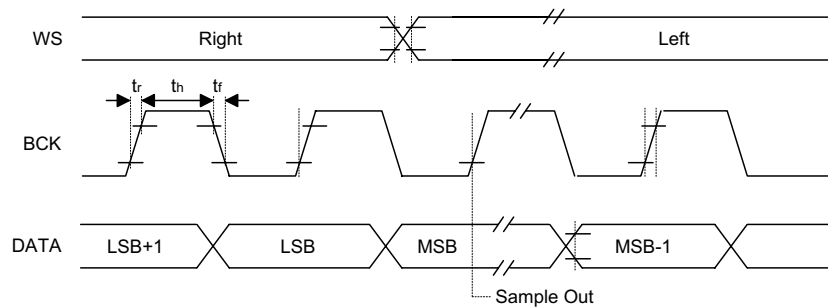
Pin No.	Pin Name	I/O	Description
1	BCK	I	Bit serial clock input
2	WS	I	Word select input
3	DIN	I	Data input
4	VSS	—	Negative power supply, ground
5	VDD	—	Positive power supply
6	LCH	O	Left channel output
7	NC	—	No connection
8	RCH	O	Right channel output

Electrical Characteristics

Ta=25°C

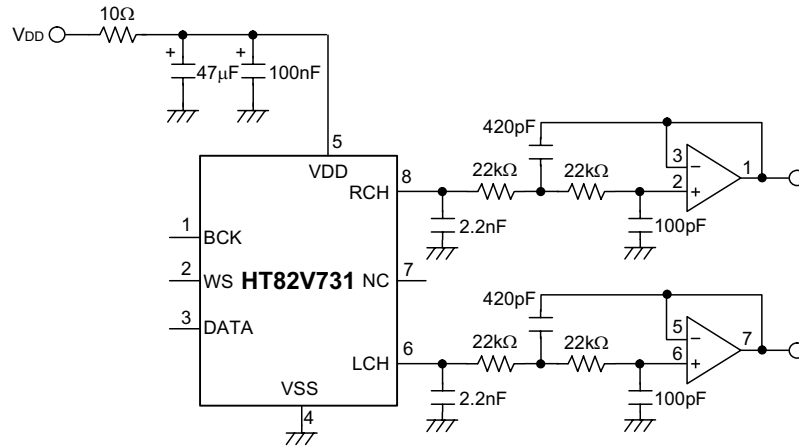
Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V _{DD}	Conditions				
V _{DD}	Supply Voltage	—	—	2.4	5.0	5.5	V
I _{DD}	Supply Current	5V	—	—	—	6.0	mA
V _O	Maximum Output Amplitude	5V	—	—	2.5	—	V _{pp}
f _{BCK}	Bit Clock Input Frequency	—	—	—	—	18.4	MHz
f _{WS}	Word Select Input Frequency	—	—	—	—	300	kHz
THD	Total Harmonic Distortion	5V	1kHz, 0dB*	—	65	—	dB
				—	0.055	—	%
DR	Dynamic Range	5V	—	—	16	—	Bit
S/N	Signal to Noise Ratio	5V	A weighted at DIN code=0000H	—	92	—	dB

Note: "*" means measured with 1kHz sinewave generated at a sampling rate of 192kHz.

Timing Diagrams


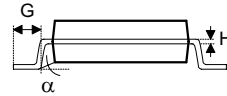
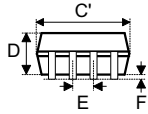
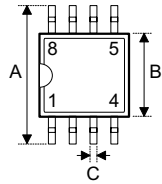
Timing and input signals

Application Circuits



Package Information

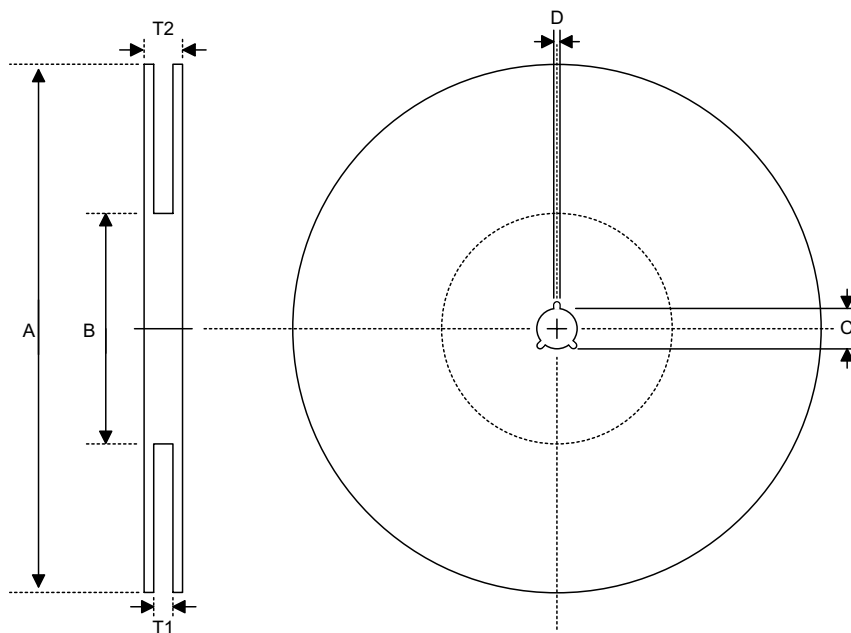
8-pin SOP (150mil) Outline Dimensions



Symbol	Dimensions in mil		
	Min.	Nom.	Max.
A	228	—	244
B	149	—	157
C	14	—	20
C'	189	—	197
D	53	—	69
E	—	50	—
F	4	—	10
G	22	—	28
H	4	—	12
α	0°	—	10°

Product Tape and Reel Specifications

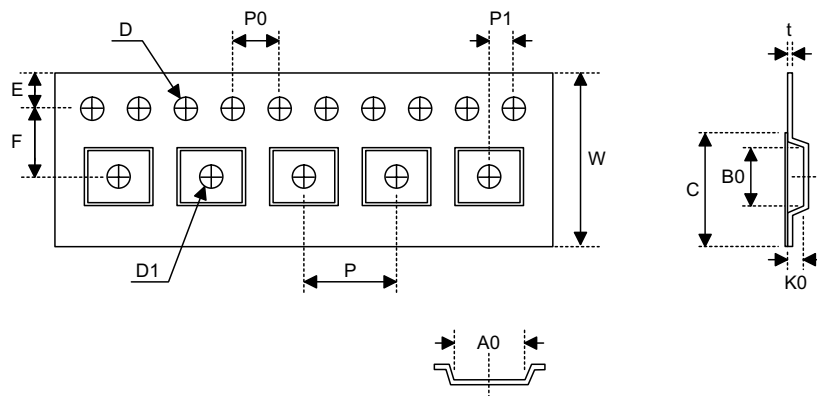
Reel Dimensions



SOP 8N

Symbol	Description	Dimensions in mm
A	Reel Outer Diameter	330±1.0
B	Reel Inner Diameter	62±1.5
C	Spindle Hole Diameter	13.0+0.5 -0.2
D	Key Slit Width	2.0±0.15
T1	Space Between Flange	12.8+0.3 -0.2
T2	Reel Thickness	18.2±0.2

Carrier Tape Dimensions



SOP 8N

Symbol	Description	Dimensions in mm
W	Carrier Tape Width	12.0+0.3 -0.1
P	Cavity Pitch	8.0±0.1
E	Perforation Position	1.75±0.1
F	Cavity to Perforation (Width Direction)	5.5±0.1
D	Perforation Diameter	1.55±0.1
D1	Cavity Hole Diameter	1.5+0.25
P0	Perforation Pitch	4.0±0.1
P1	Cavity to Perforation (Length Direction)	2.0±0.1
A0	Cavity Length	6.4±0.1
B0	Cavity Width	5.20±0.1
K0	Cavity Depth	2.1±0.1
t	Carrier Tape Thickness	0.3±0.05
C	Cover Tape Width	9.3

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