

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
- Data in 2's complement format, TTL
- 8-pin SOP package

Applications

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

General Description

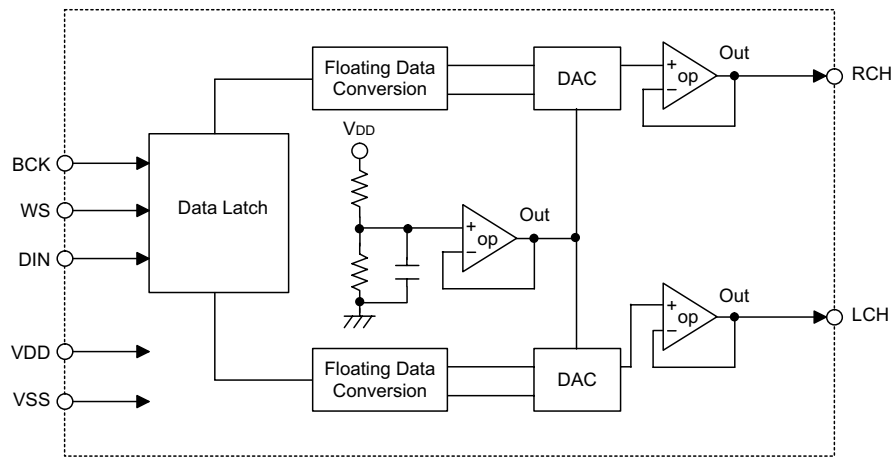
HT82V731 is a 16-bit digital-to-analog converter IC utilizing CMOS technology specially designed for stereo audio application.

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.

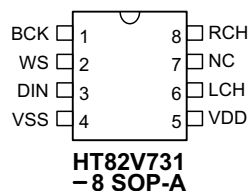
Using an R-string voltage divider, this floating point expression data is then converted to analog voltage.

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

Block Diagram



Pin Assignment



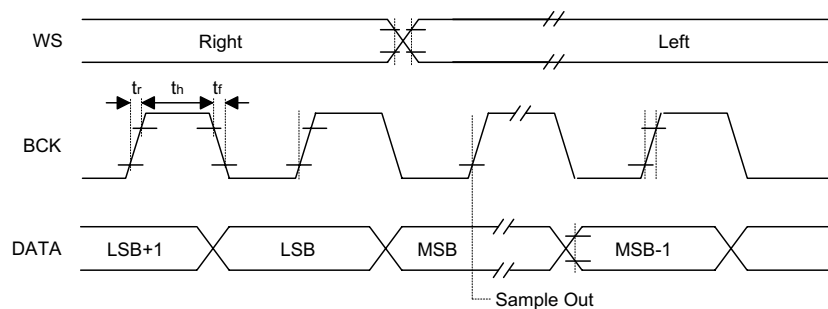
Pin Description

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

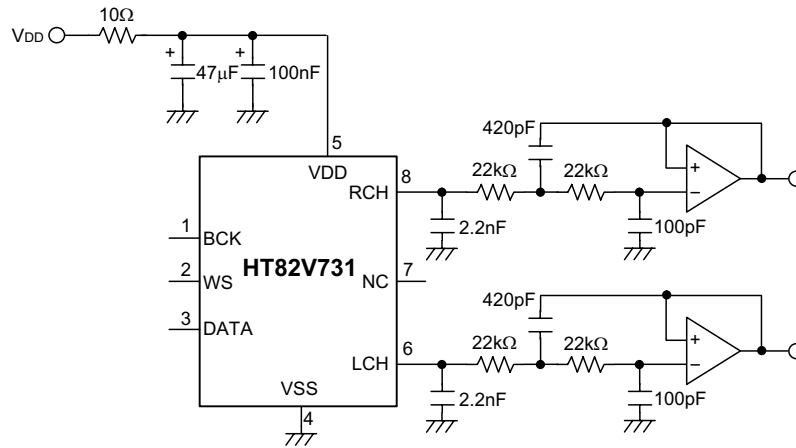
Ta=25°C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		V _{DD}	Conditions				
V _{DD}	Supply Voltage	—	—	4.5	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	—	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


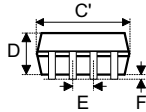
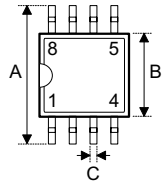
Timing and input signals

Application Circuits



Package Information

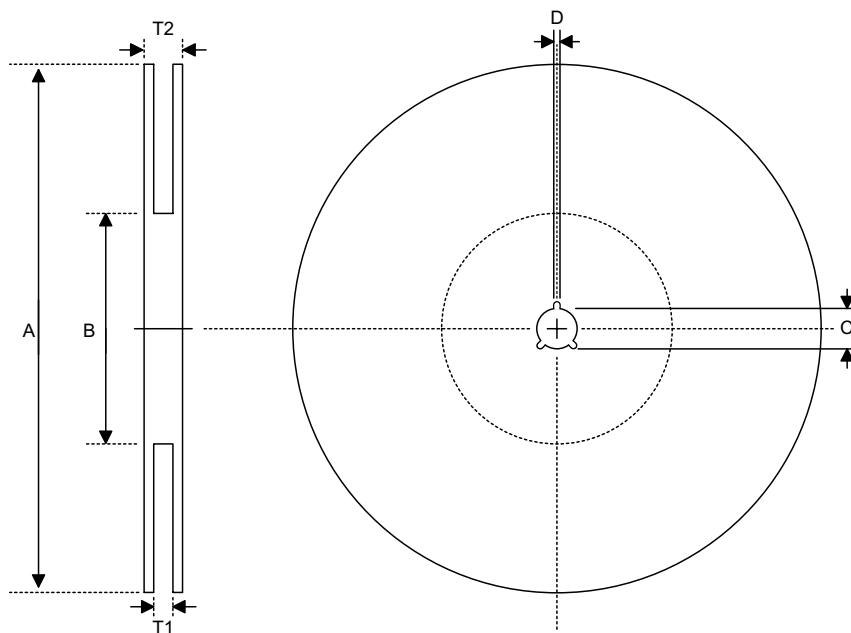
8-pin SOP (150mil) outline dimensions



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

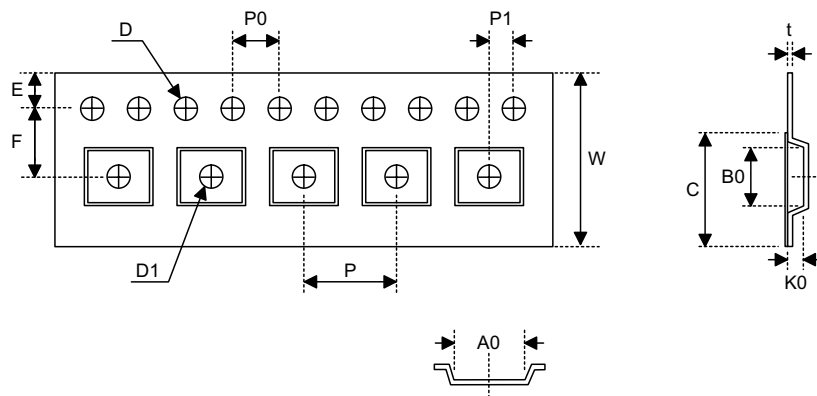
Reel dimensions



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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