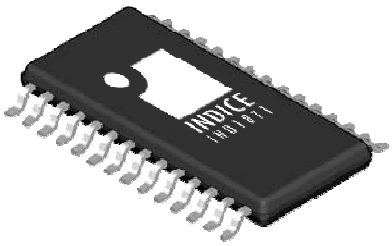
Continuous Sigma Stereo ADC
Product Number: IND1871



Description

The IND1871 stereo Audio ADC is intended for high performance audio applications as a direct replacement to the AD1871. The IND1871 offers 80% lower power consumption than the AD1871 with superior performance in noise floor and idle tones. Group delay is up to 15 times lower, enabling real time audio processing.

Features

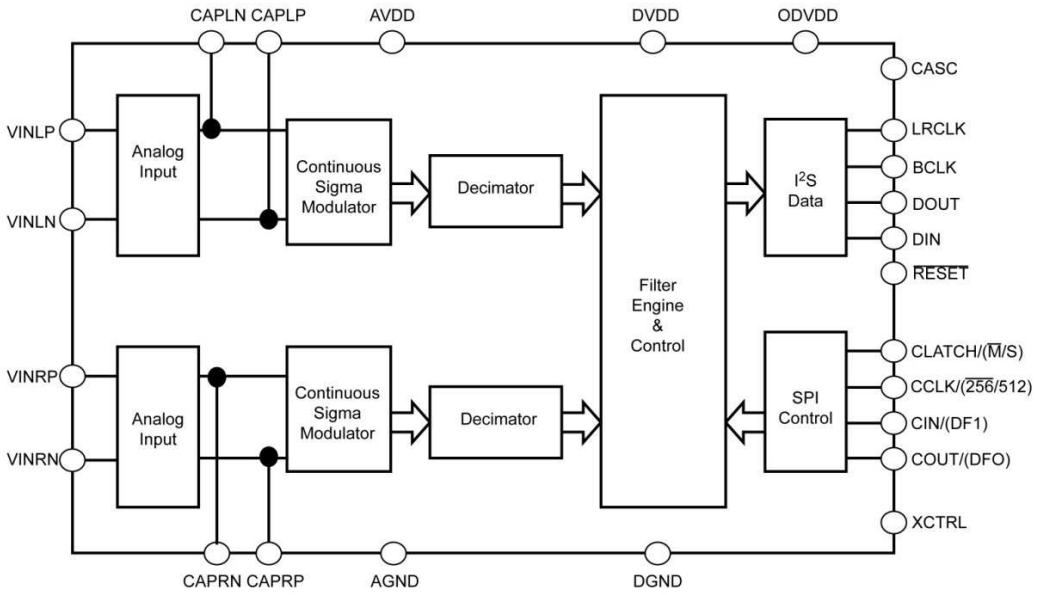
- Continuous Sigma encoding method
- Up to 80% power saving compared with AD1871 (~50mW power consumption)
- 118dB typical dynamic range, 13dB superior to AD1871
- 32kHz to 192kHz sampling rates
- Full rail differential input (3.3V to 5V)
- Ultra low group delay: <65µS

Applications

- Professional audio
- Mixing consoles
- Home theatre systems
- Multimedia
- High fidelity audio

The IND1871's audio data interface supports all common interface formats such as I^2S, left-justified, right-justified, as well as other modes that allow for convenient connection to general purpose digital signal processors (DSPs). The IND1871 also features an SPI compatible serial control port that allows for convenient control of device parameters and functionality such as sample word-width, interface modes, and more.

Functional Block Diagram



Performance Data

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Test conditions unless otherwise noted

- Supply Voltages 3V3
- Ambient temperature 25 ºC
- Frequency sample (fS) 48kHz
  Input Clock (fCLKIN) [256 x fS] 12.288 MHz
- Input Signal 991.768 Hz
  –0.5 dB Full Scale (dBFS) (Differential)
- Measurement Bandwidth 10 Hz to 20 kHz
- Word Width 24 Bits
- Input Voltage High 3V3
- Master Mode, Data I^2S Justified
- Differential input

Item	Typ	Unit	Notes
Resolution	24	Bits	
Dynamic range	118	dB	A-Weighted
Signal to noise ratio	120		Signal-to-Noise Ratio (A-Weighted)
THD+N	-85		Input = -0.5 dBFS
	-103		Input = -20 dBFS
Differential input range	+/-3V3	V	Full input voltage rail
Input impedance	2	kΩ	
Crosstalk (EIAJ Method)	-100dB		
Supply voltage	3.3 or 5	V	
Decimation Factor	8192		
Pass-Band Frequency	24	kHz	
Stop-Band Frequency	27	kHz	
Pass-Band Ripple	+/- 0.01	dB	
Stop-Band Attenuation	120	dB	
Group Delay	65	µS	

Ordering Information

IC Order Number	Package	Description
IND1871	TSSOP28	Stereo Audio ADC, Continuous Sigma encoding

Note: Specifications are subject to change. For up-to-date product information, please visit www.indicesemi.com.