

MAX98095

Audio Hub with FlexSound Processor

General Description

The MAX98095 is a full-featured high performance audio hub with low power consumption and advanced signal processing, making it ideal for a wide range of portable applications.

Three differential analog microphone inputs and four 1-bit digital microphone inputs accept audio from main, accessory, and background microphones. Analog line inputs accept four single-ended or two differential audio signals.

Three digital audio interfaces support I²S/PCM/TDM audio formats. Three integrated sample rate converters and highly configurable signal routing enable a wide range of use cases. The FlexSound™ audio processor provides low-power advanced signal processing, including equalization, dynamic range compression, speaker protection, microphone noise suppression, acoustic echo cancellation, and ambient aware outputs.

Integrated amplifiers can output signals from three DACs or any of the analog inputs. Amplifiers include a differential receiver amplifier, a stereo Class D speaker amplifier, a stereo Class H headphone amplifier and four single-ended line outputs.

The IC is fully specified over the -40°C to +85°C extended temperature.

FlexSound is a trademark of Maxim Integrated Products, Inc.

DirectDrive is a registered trademark of Maxim Integrated Products, Inc.

Benefits and Features

- ◆ 102dB DR Stereo DAC (8kHz < f_S < 96kHz)
- ◆ 90dB DR Stereo ADC (8kHz < f_S < 96kHz)
- ◆ 4.2mW Headphone Playback Power Consumption
- ◆ Stereo Low EMI Class D Amplifiers
3.2W per Channel (4Ω, PVDD₋ = 5.0V)
1.2W per Channel (8Ω, PVDD₋ = 4.2V)
- ◆ Stereo DirectDrive® Headphone Amplifiers
33mW per Channel (32Ω)
- ◆ Differential Receiver Amplifier
- ◆ 2 Stereo Single-Ended/Mono Differential Line Inputs
- ◆ 3 Differential Microphone Inputs
- ◆ FlexSound Audio Processing
Enhanced Speakerphone
Single/Dual Microphone Noise Suppression
Ambient Aware Receiver Output
Acoustic Echo Cancellation
- ◆ Three I²S/PCM/TDM Digital Audio Interfaces
- ◆ Asynchronous Digital Mixing and Sample Rate Conversion
- ◆ Extensive Click-and-Pop Reduction Circuitry
- ◆ I²C/SPI Control Interface
- ◆ 108 WLP Package (6.4mm x 4.7mm, 0.5mm pitch)

Ordering Information appears at end of data sheet.

For related parts and recommended products to use with this part, refer to www.maxim-ic.com/MAX98095.related.

Simplified Block Diagram

