

Multimedia CODEC With Class D Headphone and Line Out

DESCRIPTION

The WM8985 is a low power, high quality, feature-rich stereo codec designed for portable multimedia applications requiring the lowest possible power consumption and high quality audio.

The device integrates preamps for stereo differential mics, and includes class D and class AB drivers for headphone and differential or stereo line output. External component requirements are reduced as no separate microphone or headphone amplifiers are required.

Advanced DSP features include a 5-band equaliser and 3D enhancement, an ALC/limiter for the microphone or line input through the ADC and a digital playback limiter. Other programmable filtering functions are available in the ADC path. Highly flexible mixing capabilities enable many new application features, with the option to record and playback any combination of voice, line inputs and digital audio.

The WM8985 digital audio interface can operate in master or slave mode, while an integrated PLL provides support for all commonly used clocking schemes in portable devices.

The WM8985 operates at analogue supply voltages from 2.5V to 3.3V, although the digital core can operate at voltages down to 1.71V to save power. Additional power management control enables individual sections of the chip to be powered down under software control.

FEATURES

Stereo Codec:

- DAC SNR 98dB, THD -86dB ('A' weighted @ 48kHz)
- ADC SNR 92.5dB, THD -75dB ('A' weighted @ 48kHz)
- Class D / AB headphone drivers
- Stereo, mono or differential line drivers
- 40mW per channel output power into 16Ω / 3.3V AVDD2
- Stereo, mono or differential line output
- Pop and click suppression

Mic Preamps:

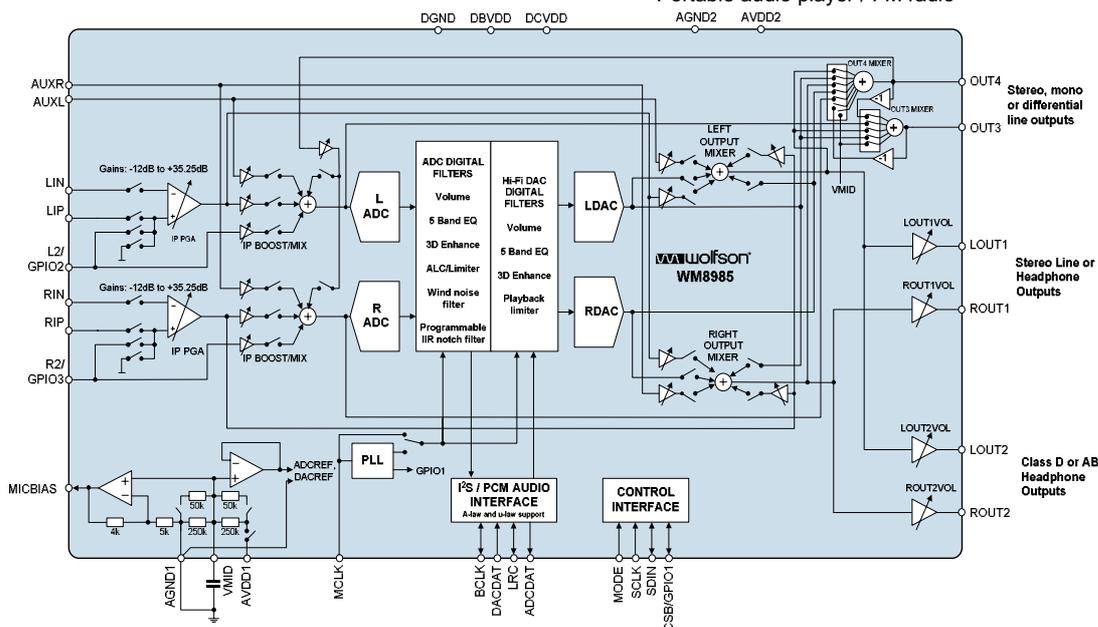
- Stereo differential or mono microphone interfaces
- Programmable preamp gain
- Pseudo differential inputs with common mode rejection
- Programmable ALC / noise gate in ADC path
- Low-noise bias supplied for electret microphones

Other Features:

- 3D stereo enhancement
- Digital playback limiter
- 5-band equaliser (record or playback)
- Programmable high pass filter (Wind noise reduction)
- Programmable notch filter (Additional noise suppression)
- Aux inputs for stereo analog input signals
- PLL supporting various clocks between 8MHz-50MHz
- Sample rates supported (kHz): 8, 11.025, 16, 12, 16, 22.05, 24, 32, 44.1, 48
- Low power, low voltage
- 2.5V to 3.6V analogue supplies
- 1.71V to 3.6V digital supplies
- 5x5mm 32-lead QFN package

APPLICATIONS

- Mobile multimedia
- Portable audio player / FM radio



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