

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:

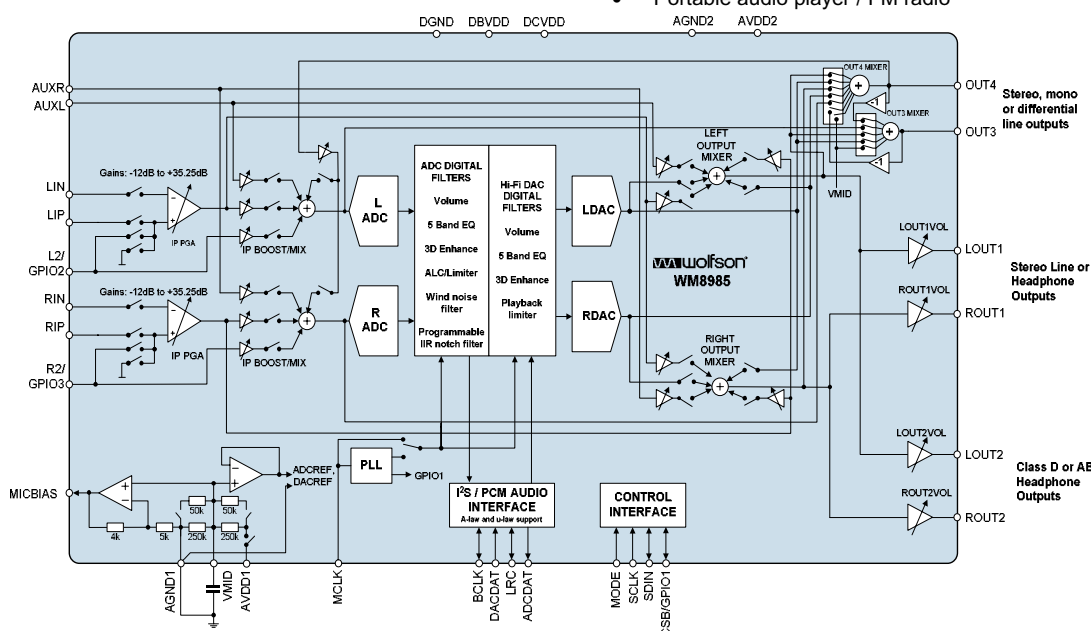
- Stereo differential or mono microphone interfaces
- Programmable preamp gain
- Psuedo differential inputs with common mode rejection
- Programmable ALC / noise gate in ADC path
- Low-noise bias supplied for electret microphones

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



IMPORTANT NOTICE

Wolfson Microelectronics plc (WM) reserve the right to make changes to their products or to discontinue any product or service without notice, and advise customers to obtain the latest version of relevant information to verify, before placing orders, that information being relied on is current. All products are sold subject to the WM terms and conditions of sale supplied at the time of order acknowledgement, including those pertaining to warranty, patent infringement, and limitation of liability.

WM warrants performance of its products to the specifications applicable at the time of sale in accordance with WM's standard warranty. Testing and other quality control techniques are utilised to the extent WM deems necessary to support this warranty. Specific testing of all parameters of each device is not necessarily performed, except those mandated by government requirements.

In order to minimise risks associated with customer applications, adequate design and operating safeguards must be used by the customer to minimise inherent or procedural hazards. Wolfson products are not authorised for use as critical components in life support devices or systems without the express written approval of an officer of the company. Life support devices or systems are devices or systems that are intended for surgical implant into the body, or support or sustain life, and whose failure to perform when properly used in accordance with instructions for use provided, can be reasonably expected to result in a significant injury to the user. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

WM assumes no liability for applications assistance or customer product design. WM does not warrant or represent that any license, either express or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right of WM covering or relating to any combination, machine, or process in which such products or services might be or are used. WM's publication of information regarding any third party's products or services does not constitute WM's approval, license, warranty or endorsement thereof.

Reproduction of information from the WM web site or datasheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations and notices. Representation or reproduction of this information with alteration voids all warranties provided for an associated WM product or service, is an unfair and deceptive business practice, and WM is not responsible nor liable for any such use.

Resale of WM's products or services with statements different from or beyond the parameters stated by WM for that product or service voids all express and any implied warranties for the associated WM product or service, is an unfair and deceptive business practice, and WM is not responsible nor liable for any such use.

ADDRESS:

Wolfson Microelectronics plc
Westfield House
26 Westfield Road
Edinburgh
EH11 2QB
United Kingdom

Tel :: +44 (0)131 272 7000
Fax :: +44 (0)131 272 7001
Email :: sales@wolfsonmicro.com