

Stereo CODEC with 1W Stereo Class D Speaker Driver

DESCRIPTION

The WM8960 is a low power, high quality stereo codec designed for portable digital audio applications.

Stereo class D speaker drivers provide 1W per channel into 8Ω loads. Guaranteed low leakage, excellent PSRR and pop/click suppression mechanisms enable direct battery connection for the speaker supply.

The device also integrates a complete microphone interface and a stereo headphone driver. External component requirements are drastically reduced as no separate microphone, speaker or headphone amplifiers are required. Advanced on-chip digital signal processing performs automatic level control for the microphone or line input.

Stereo 24-bit sigma-delta ADCs and DACs are used with low power over-sampling digital interpolation and decimation filters and a flexible digital audio interface.

The master clock can be input directly or generated internally by an onboard PLL, supporting most commonly-used clocking schemes.

The WM8960 operates at analogue supply voltages down to 2.7V. The digital core can operate at voltages down to 1.71V to save power. The speaker supply can operate at up to 5.5V, providing 1W per channel into 8Ω loads. The maximum for all other supplies is 3.6V. Different sections of the chip can also be powered down under software control.

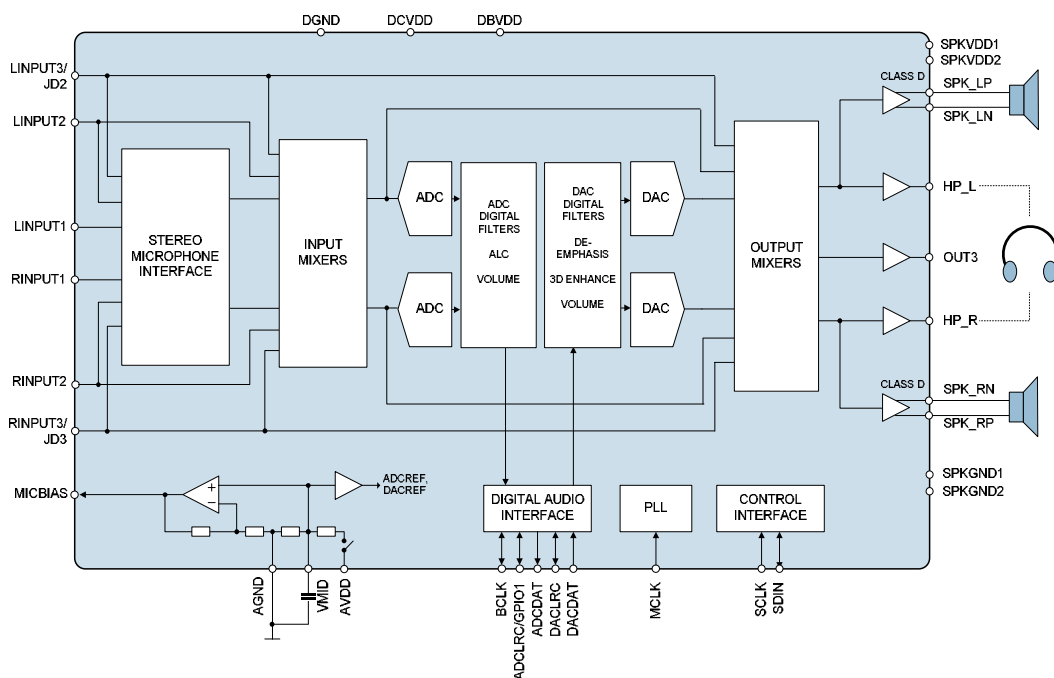
The WM8960 is supplied in a very small and thin 5x5mm 32-pin QFN package, ideal for use in hand-held and portable systems.

FEATURES

- DAC SNR 98dB ('A' weighted), THD -84dB at 48kHz, 3.3V
- ADC SNR 95dB ('A' weighted), THD -82dB at 48kHz, 3.3V
- Pop and click suppression
- Microphone Interface
- Programmable ALC / Limiter & Noise Gate
- 3D Stereo Enhancement
- Stereo Class D Speaker Driver
 - 1W per channel into 8Ω BTL speakers
 - Flexible switching clock
 - Filterless connection supported
- On-chip Headphone Driver
 - 40mW output power into 16Ω at 3.3V
 - Capless mode
- Low Power Consumption
 - 10mW headphone playback (2.7V / 1.8V supplies)
 - 20mW record and playback (2.7V / 1.8V supplies)
- Low Supply Voltages
 - Analogue 2.7V to 3.6V (AVDD)
 - Speaker 2.7V to 5.5V (SPKVDD)
 - Digital core: 1.71V to 3.6V (DCVDD)
 - Digital I/O: 1.71V to 3.6V (DBVDD)
- On-chip PLL provides flexible clocking scheme
- Sample rates: 8, 11.025, 12, 16, 22.05, 24, 32, 44.1, 48
- 5x5x0.9mm 32-pin QFN package

APPLICATIONS

- Games consoles
- Portable media / DVD players
- Mobile multimedia



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
26 Westfield Road
Edinburgh
EH11 2QB
United Kingdom

Tel :: +44 (0)131 272 7000

Fax :: +44 (0)131 272 7001

Email :: sales@wolfsonmicro.com