

## Hi-Fi DAC with 1W Stereo Class D Speaker Drivers and Headphone Drivers

### DESCRIPTION

The WM8956 is a low power, high quality stereo DAC designed for portable multimedia applications.

Stereo class D speaker drivers provide 1W per channel into 8Ω loads with a 5V supply. Low leakage, excellent PSRR and pop/click suppression mechanisms also allow direct battery connection to the speaker supply. Flexible speaker boost settings allow speaker output power to be maximised while minimising other analogue supply currents.

A highly flexible input configuration for up to three stereo sources is integrated, with a complete microphone interface. External component requirements are drastically reduced as no separate microphone, speaker or headphone amplifiers are required.

Stereo 24-bit sigma-delta DACs are used with low power over-sampling digital interpolation 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 WM8956 operates at analogue supply voltages down to 2.7V, although the digital supplies 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. Unused functions can be disabled using software control to save power.

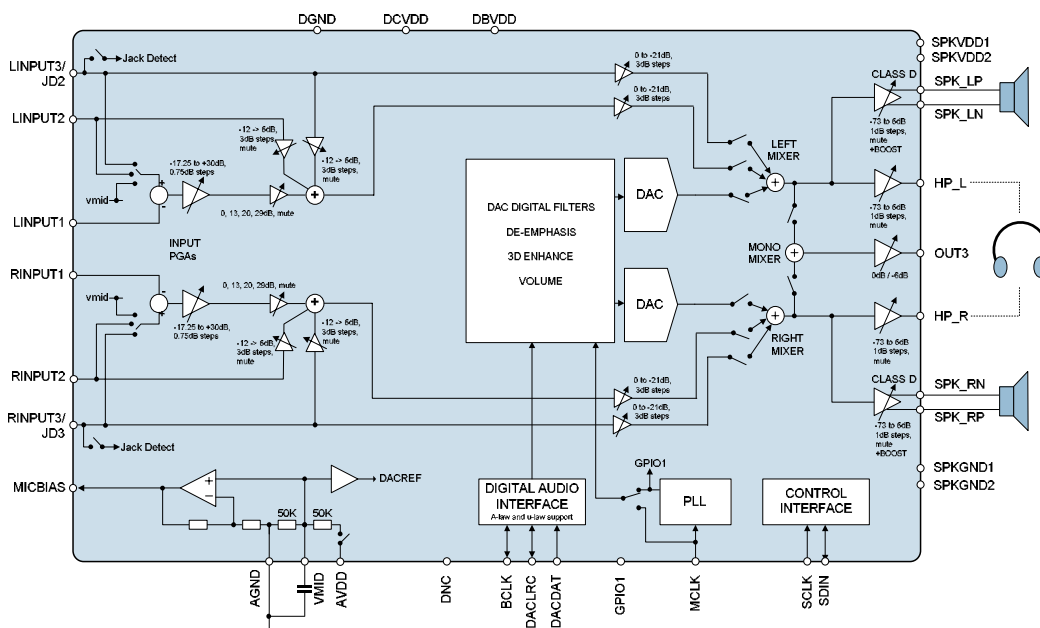
The WM8956 is supplied in a very small and thin 5x5mm QFN package, ideal for use in hand-held and portable systems.

### FEATURES

- DAC SNR 98dB ('A' weighted), THD -84dB at 48kHz, 3.3V
- Pop and click suppression
- 3D Enhancement
- Stereo Class D Speaker Driver
  - <0.1% THD with 1W per channel into 8Ω BTL speakers
  - 70dB PSRR @217Hz
  - 87% efficiency (1W output)
  - Flexible internal switching clock
- On-chip Headphone Driver
  - 40mW output power into 16Ω at 3.3V
  - Capless mode support
  - THD -75dB at 20mW, SNR 90dB with 16Ω load
- Microphone Interface
  - Pseudo differential for high noise immunity
  - Integrated low noise MICBIAS
- Low Power Consumption
  - 10mW headphone playback (2.7V / 1.8V supplies)
- Low Supply Voltages
  - Analogue 2.7V to 3.6V (Speaker supply up to 5.5V)
  - Digital core and I/O: 1.71V to 3.6V
- On-chip PLL provides flexible clocking scheme
- Sample rates: 8, 11.025, 12, 16, 22.05, 24, 32, 44.1, 48
- 5x5x0.9mm QFN package

### APPLICATIONS

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



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