

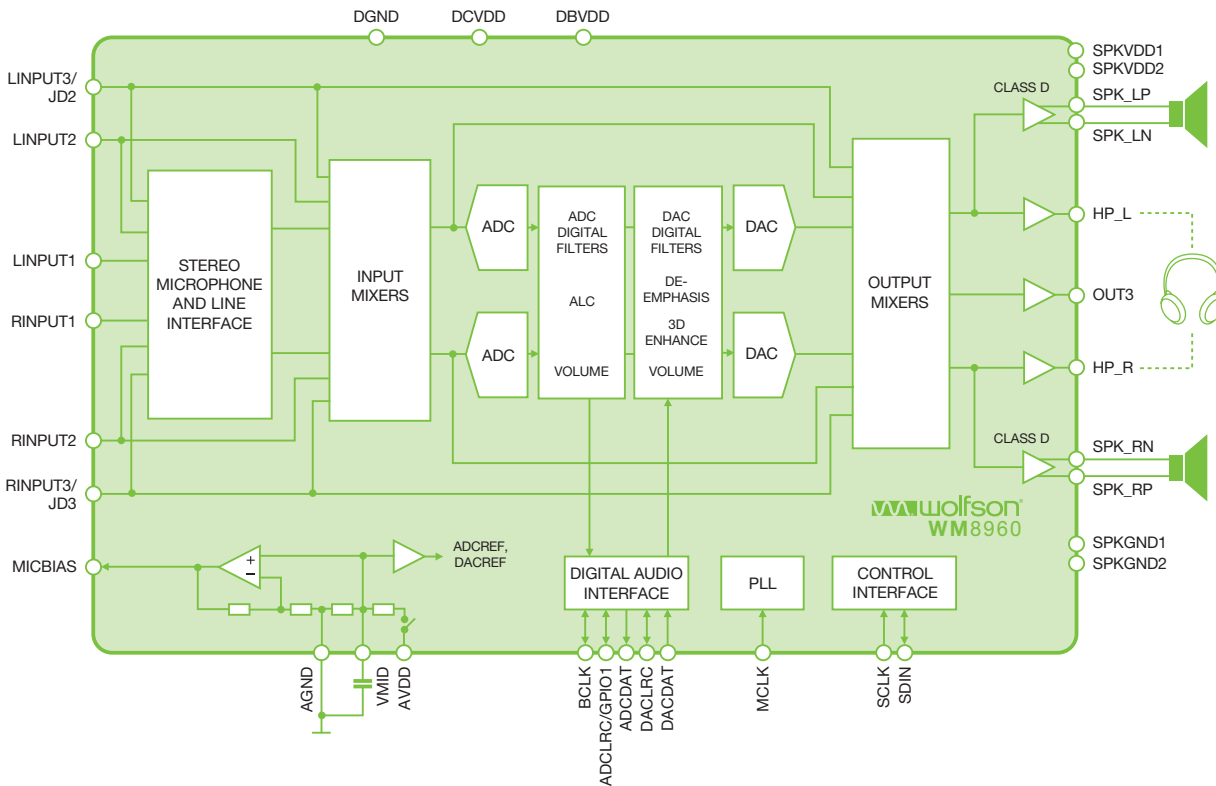
## Stereo CODEC with 1W Stereo Class D Speaker Driver

# WM8960

### High power, high fidelity speaker audio at low power consumption

The WM8960 is a low power, high quality stereo audio CODEC with high efficiency 1W Class D speaker drivers designed for multi-media mobile phones and portable media devices.

The WM8960 stereo CODEC integrates a filterless Class D stereo speaker driver, stereo ADCs and DACs, headphone driver and internal PLL. Targeted at emerging portable applications, such as mobile phones with stereo speakers and personal video players that require high performance audio and extended battery life.



#### PRODUCT BENEFITS

- High Fidelity stereo audio with high speaker power output
- Extends battery life in active, standby and off modes
- Reduces external component count
- Compact size

#### TARGET APPLICATIONS

- Multi-media mobile phones
- Portable audio and video players
- Portable DVD players

PRODUCT FEATURES	PRODUCT DETAILS
DAC SNR 98dB ('A' weighted), THD -84dB at 48kHz, 3.3V	<p><b>PLUG HI-FI SOUND TO A PORTABLE DEVICE</b></p> <p>High efficiency stereo class D speaker drivers deliver 1W per channel into 8Ω speakers from a 5V supply. The 24-bit stereo ADCs and DACs use Wolfson's class leading audio architecture providing high performance at very low power. Stereo headphone and line drivers with full analogue volume control are integrated with headphone detection support. A complete stereo differential microphone interface provides high gain and low noise recording of hi-fi quality.</p> <p><b>EXTENDED BATTERY LIFE</b></p> <p>The WM8960 operates at analogue supply voltages down to 2.7V, although 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 &gt;1W per channel into an 8Ω load. The maximum for all other supplies is 3.6V. Different sections of the chip can also be powered down under software control.</p> <p><b>INTEGRATED PLL</b></p> <p>The master clock can be input directly or generated internally by an onboard PLL, supporting most commonly-used clocking schemes.</p> <p><b>REDUCED COMPONENT COUNT</b></p> <p>Low leakage, high PSRR, anti-pop mechanisms and flexible signal boosting also enable direct battery connection, reducing external components and minimising power consumption. 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. The WM8960 is supplied in a very small and thin 5x5mm QFN package, ideal for use in hand-held or portable systems.</p>
ADC SNR 95dB ('A' weighted), THD -82dB at 48kHz, 3.3V	
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	
Pop and click suppression	
Stereo and mono Microphone Interfaces	
Programmable ALC / Limiter & Noise Gate	
3D Stereo Enhancement	
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 (SPKVDD up to 5.5V) Digital core: 1.71V to 3.6V Digital 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, 48kHz	
5x5x0.9mm QFN package	

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