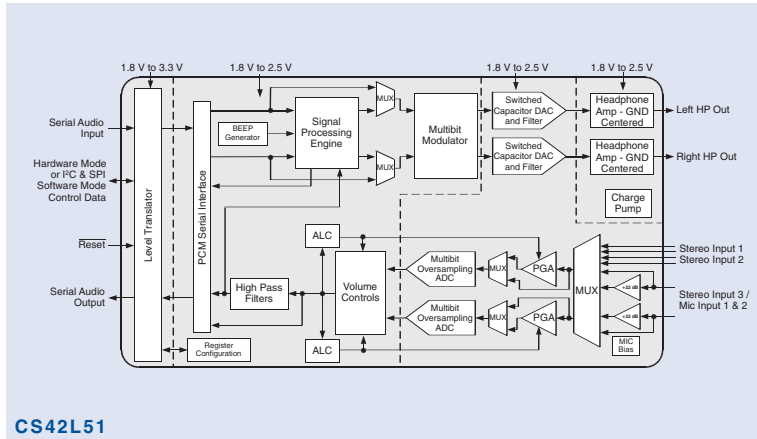


32L-QFN

5 mm

5 mm
IC dimensions
(pin-to-pin nominal)



CS42L51 DELIVERS ADVANCED PERFORMANCE

- **Low power audio CODEC**
 - Stereo playback: 12 mW @ 1.8 V
 - Stereo record and playback: 20 mW @ 1.8 V
- Operates from a single 1.8 V or 2.5 V supply
- **Analog inputs**
 - 3:1 stereo input selector
 - PGA, +12 dB to -3 dB in 0.5 dB steps
 - +32 dB or +16 dB stereo microphone pre-amp with bias supply
 - Automatic level control with overflow detection
- **Analog outputs**
 - 98 dB dynamic range
 - Configurable as stereo headphone or line level outputs
 - Ground centered outputs – no DC blocking capacitors required
 - Up to 88 mW into stereo 16 Ω headphones (2.5 V)
 - Up to 46 mW into stereo 16 Ω headphones (1.8 V)
- **Digital signal processing engine**
 - Digital bass & treble tone control
 - Programmable peak signal detect & limiter
 - Digital volume control with soft ramp & zero cross
 - On-chip beep generation
 - -88 dB THD+N (-75 dB with HP load)
 - 24-bit conversion, up to 96 kHz sample rates
 - Flexible power down management – chip/block selectable
 - CS42L51, 32L-QFN, lead-free assembly, price: \$3.95 (1K)

Highly Integrated Stereo CODEC Ideal for Portable, Low-Power Digital Audio Applications

Minimizes Player Component Count, Size & Cost

The CS42L51 delivers excellent audio performance while providing portable device developers with an innovative solution that maximizes battery life while minimizing end-product form factors. The CS42L51's key distinction is that it operates from a single, 1.8V power supply for low-power consumption, yet delivers plenty of output power, 46mW, into stereo 16 ohm headphones for a great listening experience. This highly integrated 24-bit, 96 kHz stereo CODEC is based on a multi-bit Delta-Sigma architecture which allows infinite sample rate adjustment between 4 kHz and 100 kHz.

By generating its own on-chip negative power supply voltage, the CS42L51 provides ground-centered outputs, which eliminates costly, space-consuming DC blocking capacitors that some competing solutions require. The elimination of these capacitors not only reduces the implementation cost but it also greatly simplifies product design and saves valuable circuit board space.

Applications

- Hard-disc drive & Flash-based portable audio players
- Personal media players
- Mini-disc players and recorders
- PDA's & smart phones
- Digital cameras & camcorders
- Digital voice recorders
- Wireless headsets
- Guitar effects pedals
- Portable audio recording systems
- Portable gaming systems

This next-generation CODEC is an ideal choice for any portable audio product developer. For complete, up-to-date specifications and to download the product datasheet, visit our web site today.

www.cirrus.com