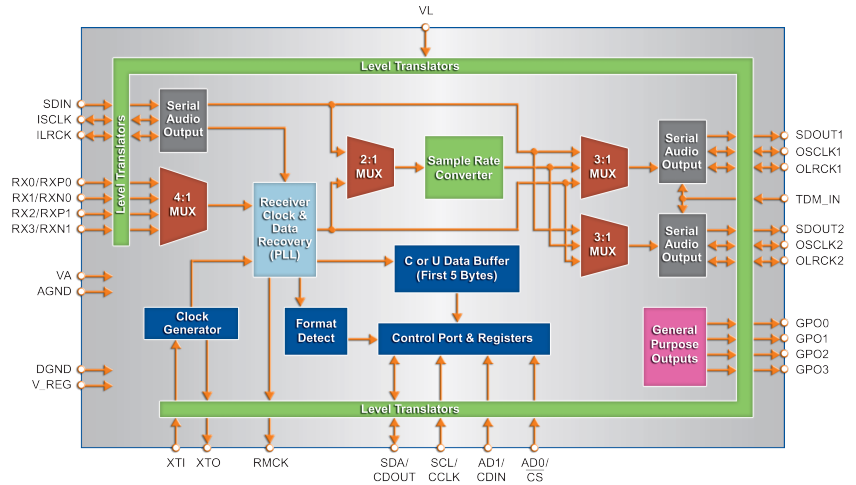# CS8422

3.3 mm
3.3 mm

CS8422
32-pin QFN dimensions

CS8422 Features

DIGITAL AUDIO INTERFACE RECEIVER

- Complete EIAJ CP1201, IEC-60958, AES3, S/PDIF compatible receiver
- 28 kHz to 216 kHz sample-rate range
- 2:1 differential AES3 or 4:1 S/PDIF inputs
- De-emphasis filtering for 32 kHz, 44.1 kHz, and 48 kHz
- Recovered master clock output: 64/96/128/192/256/384/512/768/1024xFs
- Ultra-low jitter clock recovery
- High input jitter tolerance
- No external PLL filter components required
- Selectable and automatic clock switching
- AES3 direct output and AES3 TX pass-through
- On-chip channel status data buffering
- Automatic detection of compressed audio streams
- Decodes CD Q sub-code

SAMPLE-RATE CONVERTER

- 140 dB dynamic range
- -120 dB THD+N
- No external master clock required
- Support sample rates up to 211 kHz
- Sample-rate ratios from 6:1 to 1:6
- 16, 18, 20, or 24-bit data I/O
- Dither automatically applied and scaled to output resolution
- Multiple part outputs are phase matched

SYSTEM FEATURES

- SPI™ or I²C® software mode and stand-alone hardware mode
- Flexible 3-wire digital serial audio input port supporting left justified, right justified, and I²S
- Dual serial audio output ports with independently selectable data paths
- Master or slave mode operation for all serial audio ports
- Time Division Multiplexing (TDM) mode
- Integrated oscillator for use with external crystal
- Four general-purpose output pins
- 1.8 V to 5.0 V digital interface
- Space-saving 32-pin QFN package

New Digital Audio Receiver with Sample-Rate Converter

Preserves Audio Quality, Blu-ray® Disc Ready

The CS8422 is a digital audio interface receiver that decodes audio data according to the EIAJ CP1201, IEC-60958, AES3 and S/PDIF standards integrated with a 24-bit, high performance, asynchronous sample-rate converter. This integrated feature set removes the requirement for system platforms to vary system clocking when integrating asynchronous digital interfaces such as S/PDIF. System integrators can now maintain a constant-frequency, high-quality system clock and provide a digital interface to external devices operating at various asynchronous samples rates from 32 kHz to 211 kHz.

Audio data is input through the digital interface receiver or a 3-wire serial audio input port. Audio is output through one of two 3-wire serial audio output ports. Serial audio data outputs can be set to 24-, 20-, 18-, or 16-bit word-lengths. Data into the digital interface receiver and serial audio input port can be up to 24 bits long. Input and output data can be completely asynchronous, synchronous to an external clock through XTI, or synchronous to the recovered master clock.

The CS8422 can be controlled through the control port in software mode or in a stand-alone hardware mode. In software mode, the user can control the device through an SPI™ or I²C® control port.

Target applications include: DTVs, digital recording systems, audio video receivers and home theaters in a box, automotive applications such as amplifiers, radio head units, or telematics systems, professional audio systems such as mixing consoles or digital effects processors and computers.