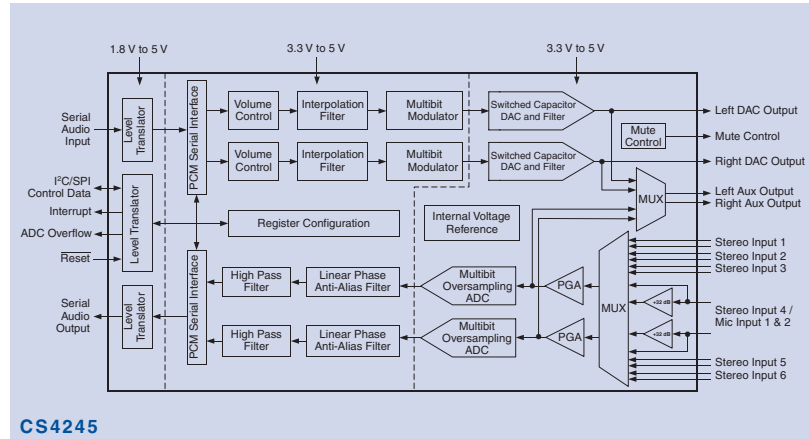


# CS4245/CS5345

9.0 mm  
9.0 mm  
IC dimensions  
(nominal—pins included)



## HIGH-END PERFORMANCE AT AFFORDABLE PRICES

- 24-bit conversion, up to 192 kHz sample rates
- Advanced multi-bit Delta-Sigma architecture
- 105 dB dynamic range
- -95 dB THD+N
- Analog input multiplexer, 6 stereo pairs and pass-through mode
- PGA:  $\pm 12$  dB gain, 0.5 dB step sizes with zero crossing
- Microphone pre-amp with +32 dB gain and low-noise bias supply
- Digital volume control
- Popguard® technology reduces output clicks and pops
- Single-ended architecture
- +3.3 V or +5.0 V power supply operation
- Integrated level shifters for direct interface to DSP or  $\mu$ C
- Overflow detection
- HPF with defeat
- Support for asynchronous ADC and DAC sample rates
- Pin-compatible
- 48-pin LQFP, lead-free assembly
- CS4245 CODEC price: \$2.45 (10K)
- CS5345 ADC price: \$1.95 (10K)

## New Highly Integrated Stereo CODEC & ADC Provide Premium Audio Performance

### INNOVATIVE DESIGNS MINIMIZE BOARD SPACE REQUIREMENTS AND LOWER TOTAL BOM COSTS

The new CS4245 stereo CODEC and CS5345 stereo ADC are pin-compatible, highly integrated audio converters designed for emerging audio and video applications such as DVD recorders and home theatre products. The pair strengthens the Cirrus Logic® mixed-signal audio IC portfolio and provides designers with an integrated solution that streamlines product development, reduces overall design complexity and cost, and delivers premium audio performance.

The front-end of both the CS4245 and CS5345 features an integrated analog input selector to accommodate up to 6 stereo audio sources. Also included is a programmable gain amplifier capable of  $\pm 12$  dB analog gain in 0.5 dB step sizes with zero crossing, click-free transitions to maintain sonic quality. One pair of inputs has a dedicated microphone pre-amplifier in its path that provides +32 dB of gain, and there is also a low-noise microphone bias supply available.

A multi-bit Delta-Sigma stereo A/D converter provides 24-bit conversion and output sample rates up to 192 kHz. A high-pass filter is included for DC offset removal, and a dedicated pin is available for detecting overflow conditions.

The 24-bit, 192 kHz stereo DAC in the CS4245 is also based on a multi-bit Delta-Sigma architecture, includes digital attenuation, and provides high quality single-ended outputs with Cirrus Logic's patented Popguard® technology to eliminate power cycling clicks and pops, further reducing the number of external components required. The sample rates for the ADC and DAC in the CS4245 can be independent of each other for flexibility in system configuration.

The CS4245 and CS5345 operate from either a +3.3 V or +5 V power supply and have +1.8 V to +5 V logic power supplies for the control and serial port to allow for direct interface to external processors or micro-controllers without level shifting.

Engineered for performance, this new CODEC and ADC pair delivers professional audio quality at a breakthrough price point.

### Applications

- DVD recorders
- DVD receivers
- Digital video recorders/personal video recorders
- Digital televisions
- Set-top boxes and home media centers
- Automotive entertainment systems
- Home theatre products
- PC sound cards

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