

## DA7219

The DA7219 is an audio CODEC with in-built advanced accessory detection (AAD) for mobile computing and accessory applications. This product contains a mono microphone to ADC path with audio activity detection, and a stereo DAC to HP path. The AAD block supports 3 and 4 pole jacks, allows the automatic polarity switching of MIC/GND on CTIA or OMTP headsets and also supports automatic button detection.

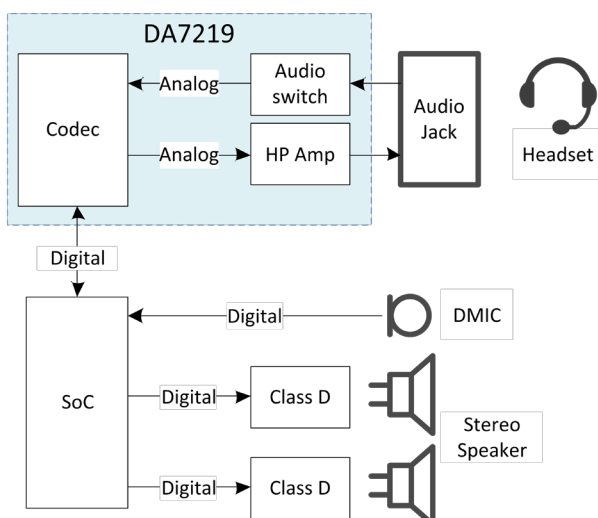


32 bump WL-CSP Package

### Features

- ▶ High performance mono microphone to ADC record path with 90 dB SNR.
  - ADC digital filters with audio and voice mode high-pass characteristics
- ▶ High performance stereo DAC to headphone playback path with 100 dB SNR.
  - DAC digital filters with audio and voice mode high-pass cutoff and 5-band equaliser
- ▶ Advanced Accessory Detection supports
  - Three/four pole jack detection
  - MIC-Ground polarity switching
  - Multiple button detection
- ▶ A hybrid analogue/digital automatic level control to dynamically control record level.
- ▶ Digital Sidetone path with gain
- ▶ Digital Tonegen with S-Ramp
- ▶ System controller for simplified pop-free startup and shutdown.
- ▶ Separate 24 kHz ADC/48 kHz DAC sample rates available
- ▶ Shutdown mode for very low current consumption during standby
- ▶ Phase-locked loop with sample rate tracking to generate system clock.
- ▶ 4-wire digital audio interface with support for I2S, TDM and other audio formats.
- ▶ 2-wire I2C compatible with support for High Speed mode up to 3.4MHz

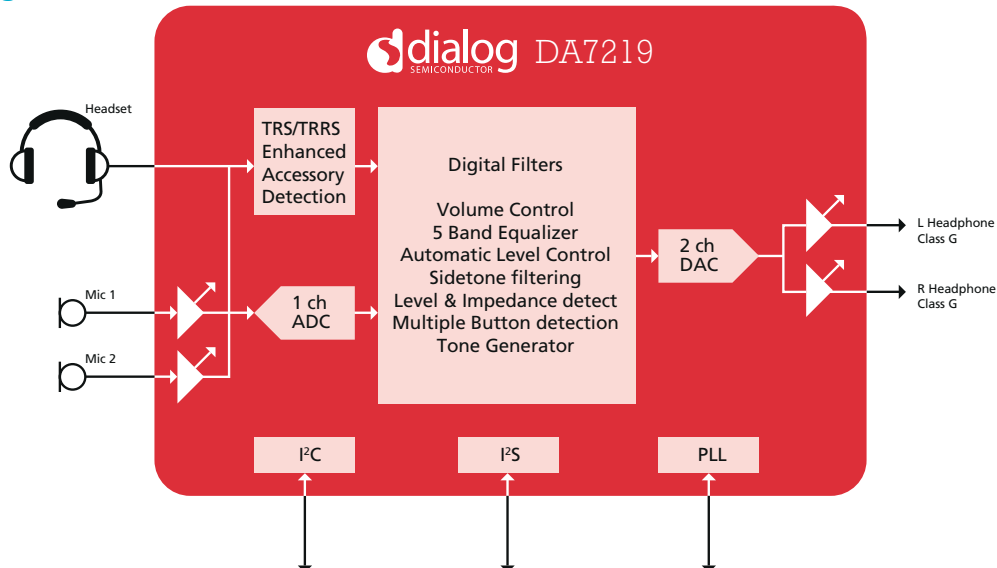
### Audio System diagram



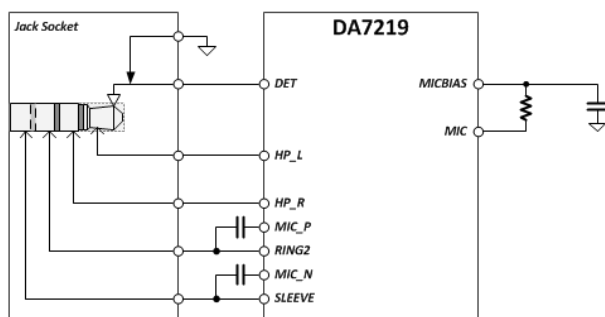
### Applications

- ▶ Chromebooks
- ▶ Portable audio applications
- ▶ Tablets and eBooks
- ▶ Audio accessories

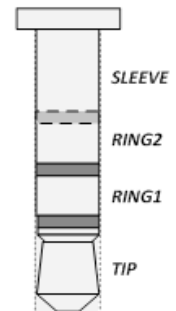
## Block Diagram



## Advanced Accessory Detection (AAD)



Position	Jack Type	
	CTIA	OMTP
SLEEVE	MIC	GND
RING2	GND	MIC
RING1	HP_R	HP_R
TIP	HP_L	HP_L



The AAD will detect a jack insertion/removal, detect the polarity of the jack (CTIA/OMTP), and will support the detection of impedance based buttons in parallel with the connected accessory microphone.

## Feature highlights

- ▶ GNG/MIC polarity switch and multiple button detection for CTIA/OMTP audio jacks
- ▶ 7.5mm<sup>2</sup> package footprint enabling PCB space savings in area constrained applications
- ▶ Capless headphone driver eliminates large AC coupling capacitors
- ▶ Optimised ball-out conducive for low cost PCB manufacturing

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