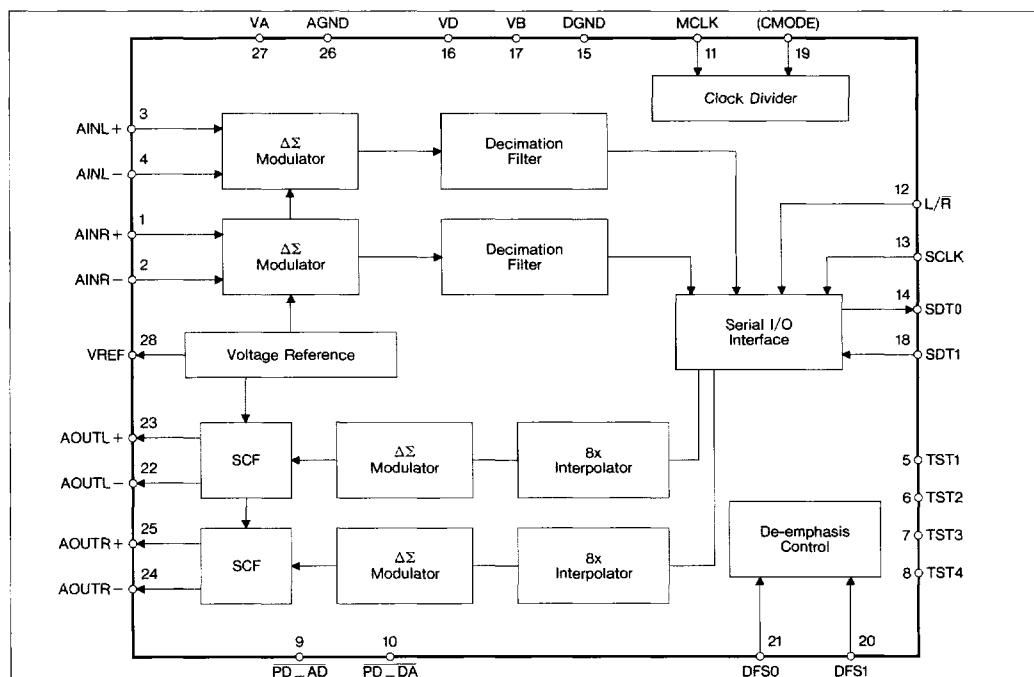


AK4504

16bit Stereo $\Delta\Sigma$ ADC & DAC

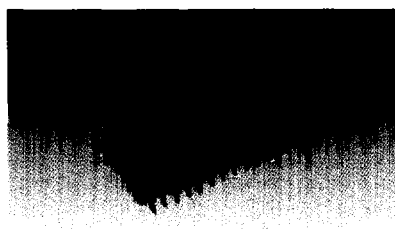
- ① 1 chip Stereo A/D, D/A Converter
- ② 4th Order Delta-Sigma Stereo ADC
 - 64x Over sampling
 - On-Chip Digital Anti-Alias Filtering
 - S/N: 90dB
- ③ 4th Order Delta-Sigma Stereo DAC
 - 64x Over sampling
 - On-Chip 8x interpolation Filter
 - On-Chip Analog Post Filter (SCF)
 - Digital de-emphasis for 32kHz, 44.1kHz, 48kHz sampling
 - S/N: 90dB
- ④ High Tolerance to Clock Jitter
- ⑤ Low Voltage Operation: 2.7V—4.0V
- ⑥ Low Power Consumption: 60mW
- ⑦ Package: 28 pin VSOP (5.6×9.8×1.2mm)



AK4504 BLOCK DIAGRAM

AK4506

16bit Stereo $\Delta\Sigma$ ADC & DAC



28pin SOP (7.5×18.7×2.2mm)

- ① 1 chip Stereo A/D, D/A Converter
- ② 4th Order Delta-Sigma Stereo ADC
 - 64x Over sampling
 - On-Chip Digital Anti-Alias Filtering
 - S/N: 90dB
- ③ 4th Order Delta-Sigma Stereo DAC
 - 64x Over sampling
 - On-Chip 8x interpolation Filter
 - On-Chip Analog Post Filter (SCF)
 - Digital de-emphasis for 32kHz, 44.1kHz, 48kHz sampling
 - S/N: 92dB
- ④ High Tolerance to Clock Jitter
- ⑤ Single +5V Power Supply
- ⑥ Low Power Consumption: 125mW
- ⑦ Package: 28 pin SOP



AKD4503/4/5/6

AK4503/4/5/6 Evaluation Board

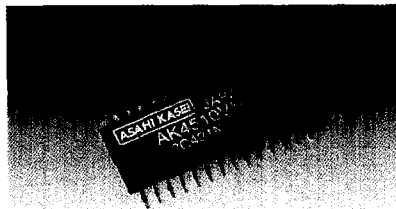
The AKD4503/4/5/6 is an evaluation board for the digital stereo audio 16bit A/D and D/A converter, AK4503/4/5/6. The A/D converter section includes the input buffer circuits and the D/A converter section includes the LPF for analog outputs. The AKD4503/4/5/6 can evaluate A/D converter and D/A converter separately in addition to loopback mode (A/D→D/A). The A/D section can be evaluated by interfacing with AKM's DAC evaluation boards (AKD4328, AKD4303, AKD4310, AKD4316 and AKD4318) directly. The AKD4503/4/5/6 has the interface with AKM's wave generator with ROM data and AKM's ADC evaluation boards (AKD5390, AKD5339, AKD5349, AKD5343/4/5 and AKD5340). Therefore, it is easy to evaluate the D/A section. The AKD4503/4/5/6 also has the digital audio interface and can achieve the interface with digital audio systems via opt-connector.

The AK4503/4 is supplied by 28pin VSOP. When shipping, the IC is soldered on the Sub-Board. The evaluation board with 28pin VSOP socket can be also supplied by request. Therefore, it is easy to evaluate by changing the IC. The AK4505/6 is supplied by 28pin SOP with socket. The measurement examples of the characteristics are attached in the manual.

- ① On-Board analog differential input buffer circuit
- ② On-Board analog LPF output circuit
- ③ On-board clock generator
- ④ Compatible with the following 2 types of interface
 - Direct interface with AKM's A/D and D/A converter, and direct interface with a signal generator (AKD43XX) by 10pin Header
 - DIT/DIR with optical input/output
- ⑤ BND connector for an external clock input

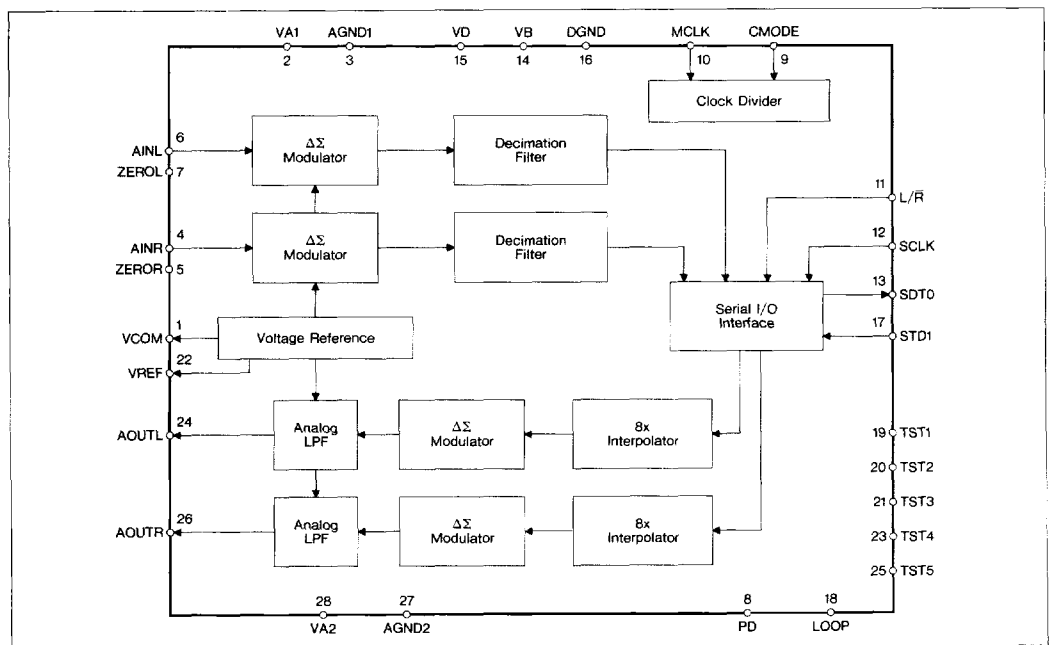
AK4510

16bit Stereo $\Delta\Sigma$ ADC & DAC for Multimedia



28pin SOP (7.5×18.7×2.2mm)

- ① 1 chip Stereo A/D, D/A Converter
- ② Delta-Sigma Stereo ADC
 - On-Chip Digital Anti-Alias Filtering
 - S/N: 86dB
- ③ Delta-Sigma Stereo DAC
 - On-Chip 8x interpolation Filter
 - On-Chip Analog Post Filter
 - On-chip Output Buffer with Single-Ended Output
 - Very Low Noise at Low Sampling Rate
 - S/N: 86dB
- ④ High Tolerance to Clock Jitter
- ⑤ Sampling Rate Ranging from 4kHz to 50kHz
- ⑥ Single +5V Power Supply
- ⑦ Low Power Consumption: 150mW
- ⑧ Package: 28 pin SOP



AK4510 BLOCK DIAGRAM

AKD4510

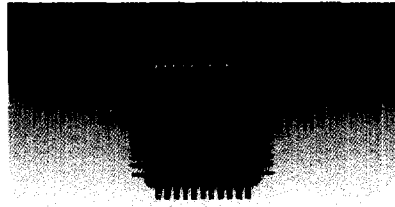
AK4510 Evaluation Board

The AKD4510 is an evaluation board for the AK4510 of multimedia audio system 16bits A/D & D/A converter. The AKD4510 can evaluate loopback mode (A/D→D/A), A/D converter and D/A converter. The A/D converter can only evaluate direct interface with AKD4328, AKD4303, AKD4316, AKD4318 and AKD4310. The D/A converter can only evaluate direct interface with AKD5390, AKD5339, AKD5349, AKD5340, AKD5345 and interface with a signal generator (AKD43XX). And the AKD4510 has a digital interface with external circuit.

- ① On-board clock generator
- ② Compatible with 3 types of interface
 - Direct interface with AKM's A/D and D/A converter.
 - Interface with a signal generator (AKD43XX).
 - On-board CS8412 as DIR which accepts optical input.
- ③ BNC connector for an external clock input.

AK4531

18bit Stereo $\Delta\Sigma$ ADC & DAC



44pin LQFP (10×10×1.7mm)

- ① 2ch Audio CODEC with low outband noise DAC
- ② 2ch 18bit Audio DAC for External FM/Wave Table Synthesizer
- ③ High Jitter Tolerance
- ④ 5ch Stereo & 3ch Mono Recording Mixer with L/R, R/L, L/L, R/R switching
- ⑤ 5ch Stereo & 3ch Mono Playback Mixer
- ⑥ Input PGA with 32 levels & 2dB step
- ⑦ 30dB MIC Amp
- ⑧ Sampling Rate: 4kHz~50kHz
- ⑨ Master Clock: 256fs or fs
- ⑩ On chip PLL for deriving 256fs master clock from fs clock
- ⑪ Corresponding to 3.3V Digital I/F
- ⑫ Lower Power Dissipation: 300mW
- ⑬ Package: 44pin LQFP