New noise-cancelling IC from ams helps OEMs deliver better audio quality in wireless headsets

AS3421, AS3422 single chip ANC solutions with integrated speaker driver optimized for use with Bluetooth-enabled headset systems-on-chip

Unterpremstaetten, Austria (June 20, 2012), ams (SIX: AMS), a leading worldwide designer and manufacturer of high performance analog ICs for consumer & communications, industry & medical and automotive applications, introduced today the AS3421 and AS3422, single chip ANC solutions with integrated speaker driver ICs, which make it easier for manufacturers of Bluetooth headsets, headphones and earpieces to implement Active Noise Cancellation (ANC).

Wireless headsets, which may be linked over the air to devices such as mobile phones and portable media players, are often used in noisy environments such as cars, airplanes, office buildings and public places. The successful implementation of ANC dramatically reduces the perceived volume of external noise, enabling the desired receive-path audio signal to be heard against a nearly silent background. Headset users can therefore:

- Hear speech more clearly on voice calls and benefit from improved intelligibility
- Enjoy the full dynamic and frequency range of reproduced music at a comfortable playback volume
- Concentrate for longer periods of time and benefit from a less tiring and stressful listening experience

Single chip ANC solutions with integrated speaker driver ICs process external noise sensed by a microphone embedded in the headset, and generate a noise-cancelling signal, while amplifying the desired audio signal with very low levels of distortion.

ams offers a market-leading portfolio of ANC driver ICs suited to wired headphones, headsets and earphones. Now, with the introduction of the AS3421/22, it has delivered an ANC solution optimized for use in wireless headsets, many of which use Bluetooth to provide an RF channel between the host device and the headset.

Low power consumption and long battery life are particularly important requirements in wireless headsets, and the all-analog design of the AS3421/22 is markedly more efficient than DSP-based (digital)
speaker driver ICs. The devices draw just 7mA at 1.5V in stereo ANC mode, and <1µA in quiescent mode. They also implement an ultra-low power ANC-bypass mode when the user selects the playback-only function.

In addition, the AS3421/22 devices offer fully differential stereo line inputs to match the differential line outputs from typical Bluetooth-based headset systems-on-chip, combining outstanding audio quality with high performance noise reduction of typically more than 25dB.

The AS3421 is housed in a 4mm x 4mm QFN24 package while the AS3422 uses a 5mm x 5mm QFN32 package.

According to Oliver Jones, Audio Marketing Manager at ams: “Active noise cancellation brings an enormous improvement to the listener’s experience, but wireless headset manufacturers have been deterred from implementing it previously because of cost, power, size and weight concerns. With the introduction of the ultra-low power AS3421 and AS3422, which are almost a plug-and-play IC solution for Bluetooth headsets, manufacturers will now find it viable to bring the pleasure of noise-cancellation to the users of wire-free headsets, headphones and earphones.”

Technical Support

Evaluation kits for the AS3421 and AS3422 ANC speaker driver ICs are available. Contact ams for pricing. For further information on the AS4321 or AS3422 or to request samples, please visit www.ams.com/anc.
Press Release
New AS3421/AS3422 ANC speaker driver ICs

About ams:

ams develops and manufactures high performance analog semiconductors that solve its customers’ most challenging problems with innovative solutions. ams’ products are aimed at applications which require extreme precision, accuracy, dynamic range, sensitivity, and ultra-low power consumption. ams’ product range includes sensors, sensor interfaces, power management ICs and wireless ICs for customers in the consumer, industrial, medical, mobile communications and automotive markets.

With headquarters in Austria, ams employs over 1,200 people globally and serves more than 6,500 customers worldwide. ams is the new name of austriamicrosystems, following the 2011 acquisition of optical sensor company TAOS Inc. ams is listed on the SIX Swiss stock exchange (ticker symbol: AMS). More information about ams can be found at www.ams.com.

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