System-on-chip family suitable for dash-mounted sound-system control panels

STMicroelectronics has revealed the industry's first full-digital audio-amplifier system-on-chip family suitable for use in dash-mounted sound-system control panels in the car.

Class-D amplifiers achieve about 80 percent higher energy efficiency than analog class-AB amplifiers. This greater efficiency helps reduce the electrical load on the alternator and can allow extra functions or speaker channels within standardized enclosure dimensions. Historically, cost, pc-board size and EMI issues have confined automotive class-D applications to high-power booster amplifiers. Overcoming these barriers, ST's full-digital amplifier ICs now allow popular in-car equipment to deliver powerful high-quality audio experiences.

ST's new audio amplifiers also enhance the audio performance of high-power boosters and integrate circuitry to allow continuous, undistorted playback in vehicles using stop-start engine technology, or in hybrid vehicles as the electrical traction drives and combustion engine switch between various operating modes.

As the first devices of their kind to feature an integrated digital input, the 4x135W FDA4100LV and the 4x50W FDA450LV require no signal conversion or filtering circuitry, saving pc-board space and component count. In addition, engineering challenges such as EMI reduction are addressed inside the chips. ST's patented feedback loop saves the need for a large output filter, and also allows use in diverse OEM and aftermarket products by reducing dependence on speaker type. Patented features reduce electro-magnetic interference with the tuner and also simplify end-product certification to automotive electromagnetic compatibility (EMC) standards CEI EN 55025 and ISO 11452-2 (2004).

ST has also indicated plans to expand its FDA full digital amplifier family in the future, starting with a 2-channel device early in 2013.

The FDA4100LV and FDA450LV are available in volume at a unit price of, $9.00 and $8.00, respectively, in quantities of 1,000 pieces. Alternative pricing options for higher order quantities will be available on request.

STMicroelectronics
www.st.com [1].

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