14-Bit ADCs with JESD204B Serial Outputs Sample Up to 500 Ms-S

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Intersil Corporation introduced what it asserts are the industry's fastest, lowest power single and dual channel 14-bit analog-to-digital converters with JESD204B serial outputs. These serial output ADCs provide single channel sampling rates up to 500 Megasamples/second and dual channel rates up to 250 Megasamples/second. The ISLA224S/ISLA214S50 Series represent the first ADCs now in production with JESD204B serial outputs, according to the company. The integrated JESD204B-compatible transmitter offers data rates up to 4.375 Gbps per lane, requiring only two lanes to support either the dual channel 14-bit 250Msps converter (one lane per channel) or the single channel 14-bit 500Msps device. An optional third lane is included in the transmitter to support the maximum sampling rate while operating the serial lanes at less than 3.125Gbps, providing backwards compatibility with the JESD204A standard to support lower cost FPGAs. The JESD204B transmitter also provides deterministic latency between the ADC sample clock and the serialized data stream. This meets the synchronization requirements of multi-channel and I/Q communications systems. Power consumption for the ISLA224S25 is 980 mW at 250 Msps, and ISLA214S50, power consumption is 1050 mW.

The ADCs also feature a compact footprint of just 7 mm x 7 mm. They are built using Intersil's FemtoChargeTM technology on a standard CMOS process with the proven core from Intersil's popular ISLA224Pxx series, which delivers best-in-class signal-to-noise ratio (SNR).

The ISLA224S and ISLA214S50 are optimal for high performance data acquisition and broadband communications systems. They are also ideal design choices for high speed medical imaging systems, microwave receivers and radar or satellite antenna array processing, and other high speed applications. Also, the integrated 8b/10b serializer eliminates the need for an external serializing device, simplifying the design of serial-data communications systems.

Intersil Corporation
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