Industry Leading Analog-to-Digital Converters

Hittite Microwave Corporation has introduced two new analog-to-digital converter (ADC) products which extend performance capabilities both in ultra low power consumption and in ultra high bandwidth applications.

The HMCAD1104 is a 10-bit octal channel ADC which offers an industry best combination of low power and high performance. Operating at 65 MSPS, the HMCAD1104 delivers a signal to noise ratio (SNR) of 61.6 dB, while dissipating only 30 mW of power per channel. This performance level represents a 50% improvement over the next closest competitor. The unique combination of low power consumption and compact 9 mm x 9 mm QFN SMT packaging, make the HMCAD1104 ideally suited for handheld and other portable instrumentation applications.

The HMCAD1104 is pin compatible with Hittite's family of 12-bit ADCs including the HMCAD1100, HMCAD1101, and HMCAD1102, all of which are compatible with the EasySuiteTM Test and Evaluation Tool for analysis and system configuration. Ease of use is further enabled by various modes and configuration settings that can be applied to the HMCAD1104 through the serial control interface (SPI); these include channel specific power down, common mode driver strength, and coarse and fine gain control. The HMCAD1104 is specified for operation over the industrial temperature range of –40°C to +85°C while the serial LVDS output is designed to easily interface with FPGAs from several suppliers.

For high performance applications which require sampling speeds to 26 GSPS, Hittite has also released the HMCAD5831LP9BE 3-bit ADC. This wideband ADC is targeted to extreme applications in radar, radio astronomy, and test and measurement equipment. The combination of very wide input bandwidth up to 20 GHz, and a sampling rate up to 26 GSPS make this ADC unique in the industry. These features enable quantization of high bandwidth signals up to 20 GHz with good INL and DNL performance. The HMCAD5831LP9BE is designed in a full flash architecture and provides Data XOR & Inhibit functions to ease FPGA programming. The HMCAD5831LP9BE is housed in a RoHS compliant 9 mm x 9 mm SMT package.

Samples and evaluation PC boards for all SMT packaged products are available from stock and can be ordered via the company's e-commerce site or via direct purchase order. Released data sheets and s-parameter data (if truly available) are available on-line at www.hittite.com [1].

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[1] http://www.hittite.com