LTC News for Immediate Release

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Dual 14-Bit, 80Msps ADC Achieves 100MHz 110dB Channel Isolation Performance at Only 445mW Total Power Consumption

Latest Announcement of New Devices in High Speed, Low Power ADC Family

MILPITAS, CA. – March 10, 2005 – Linear Technology Corporation introduces a family of low power, high speed dual ADCs that provide -110dB crosstalk for excellent channel-to-channel isolation, while achieving extremely low power consumption. At just 445mW, about 222mW per channel, the 14-bit, 80Msps LTC2299 consumes less power than even slower competitors. The device is ideal for base station applications, achieving 73dB Signal-to-Noise Ratio (SNR) and 85dB Spurious Free Dynamic Range (SFDR) at 70MHz. For higher intermediate frequencies (IFs), it excels with 72.6dB SNR and 80dB SFDR up to 140MHz. The LTC2299 is one of 14 new dual ADCs introduced today by Linear Technology, as part of its expanding family of low power, high speed ADCs, which range from 10Msps to 80Msps at 10-bit, 12-bit and 14-bit resolution (see following table). In addition to base station applications, these low power dual ADCs are well suited for other communication systems and high-end medical imaging equipment.

The LTC2299's small 9mm x 9mm QFN package makes this dual ADC ideal for low power single carrier base stations where the matching performance of the in-phase (I) and quadrature (Q) channels is critical. Crosstalk between channels stays below -110dB from low input frequencies all the way up to 100MHz. The system footprint of the LTC2299 is small since few external bypass capacitors are needed. Optimized for undersampling with wide bandwidth, it also suits multi-carrier base station designs that require multiple receive channels in a small area. Pin-compatible versions at sample rates of 65Msps, 40Msps, 25Msps and 10Msps feature even lower power – as low as 60mW per channel. Pin-compatible 12-bit and 10-bit versions at each speed are also in full production.

In addition to the 14 new ADCs introduced today, Linear Technology is already shipping 24 previously introduced single channel ADCs. Linear Technology's new ADC family features industry-leading AC performance at every sample rate, extremely low power consumption, and pin-compatibility, allowing easy migration from 10-bit to 12- or 14-bits, or to different sample rates. All 14 dual ADCs just announced are now in production and are packaged in 9mm x 9mm, 64-pin QFN packages.

The following table provides an overview of the entire LTC2299 family.

Part Number	Resolution	Speed	Power / Ch.	Price (1k)
LTC2299	14-bit	80Msps	222mW	$37.50
LTC2298	14-bit	65Msps	205mW	$35.03
LTC2297	14-bit	40Msps	120mW	$27.38
LTC2296	14-bit	25Msps	75mW	$18.75
LTC2295	14-bit	10Msps	60mW	$17.00
LTC2294	12-bit	80Msps	211mW	$25.05
LTC2293	12-bit	65Msps	205mW	$18.12
LTC2292	12-bit	40Msps	120mW	$11.88
LTC2291	12-bit	25Msps	75mW	$11.25
LTC2290	12-bit	10Msps	60mW	$10.00
LTC2289	10-bit	80Msps	211mW	$10.05
LTC2288	10-bit	65Msps	205mW	$7.50
LTC2287	10-bit	40Msps	120mW	$7.20
LTC2286	10-bit	25Msps	75mW	$5.25

Summary of Features: LTC2299 Family

- Sample Rate: 80Msps/65Msps/40Msps/25Msps/10Msps
- 73dB SNR up to 70MHz Input
- 85dB SFDR up to 70MHz Input
- 110dB Channel Isolation at 30MHz
- 575MHz Full Power Bandwidth S/H
- Multiplexed or Separate Data Bus
- Single 3V Supply (2.7V to 3.4V)
- Low Power Dissipation: 445mW/410mW/240mW/150mW/120mW
- Selectable Input Ranges: ±0.5V or ±1V
- Clock Duty Cycle Stabilizer
- Shutdown and Nap Modes
- 64-pin, 9mm x 9mm QFN Package
- Pin Compatible Family
  80Msps: LTC2299 (14-Bit), LTC2294 (12-Bit), LTC2289 (10-Bit)
  65Msps: LTC2298 (14-Bit), LTC2293 (12-Bit), LTC2288 (10-Bit)
  40Msps: LTC2297 (14-Bit), LTC2292 (12-Bit), LTC2287 (10-Bit)
  25Msps: LTC2296 (14-Bit), LTC2291 (12-Bit), LTC2286 (10-Bit)
  10Msps: LTC2295 (14-Bit), LTC2290 (12-Bit)

COMPANY BACKGROUND: Linear Technology Corporation was founded in 1981 as a manufacturer of high performance linear integrated circuits. Linear Technology products include high performance amplifiers, comparators, voltage references, monolithic filters, linear regulators, DC-DC converters, battery chargers, data converters, communications interface circuits, RF signal conditioning circuits, and many other analog functions. Applications for Linear Technology's high performance circuits include telecommunications, cellular telephones, networking products such as optical switches, notebook and desktop computers, computer peripherals, video/multimedia, industrial instrumentation, security monitoring devices, high-end consumer products such as digital cameras and MP3 players, complex medical devices, automotive electronics, factory automation, process control, and military and space systems.

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