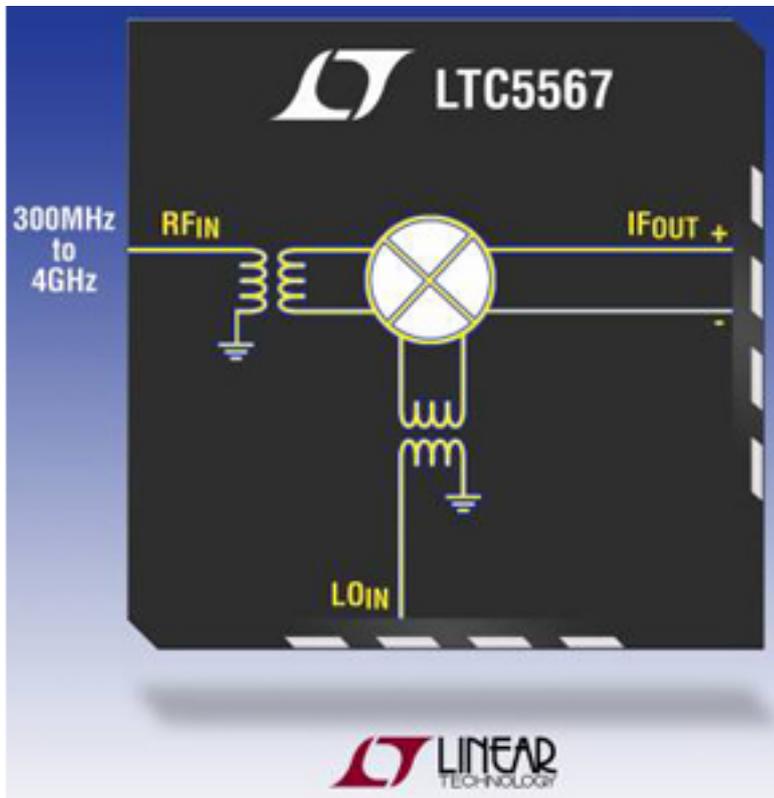


Broadband RF mixer achieves 26.9dBm IIP3 with just 294mW power consumption



Linear Technology announces the LTC5567, a 300MHz to 4GHz downconverting mixer with outstanding IIP3 (Input Third Order Intercept) of 26.9dBm, low power consumption of 294mW, and wide IF bandwidth of 2.5GHz to support 4G wireless base stations and a wide range of high dynamic range receiver applications. The LTC5567's wide 300MHz to 4GHz operating frequency range provides versatility in a single device, enabling operation in any of the cellular bands from 700MHz to 2.7GHz. The mixer features a conversion gain of 1.9dB and a noise figure of 11.8dB, providing excellent dynamic range for a wide variety of receiver applications. Additionally, the LTC5567's IF output has a wide frequency range of 5MHz to 2500MHz, supporting wideband applications such as cable TV downlink transmitters and digital predistortion (DPD) receivers. Moreover, the LTC5567's RF input is designed to withstand strong in-band blocking signals, while delivering a best-in-class noise figure of 16.5dB with a +5dBm blocker, ensuring enhanced receiver sensitivity in the presence of interference.

RF balun transformers are integrated on-chip at the RF and LO inputs, enabling the LTC5567 to operate single-ended with 50Ohm input impedance from 1.4GHz to 3GHz. Hence minimum external components are needed, reducing system costs and solution size. Since the LO input's 50Ohm termination remains even when the device is powered off, turning the device on and off will not introduce a load disturbance that can cause a PLL (phase-locked loop) with VCO loop to unlock. The LO input contains a built-in

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buffer amplifier, requiring only 0dBm drive level and providing excellent reverse RF isolation. As a result, the LTC5567 can be driven directly from an external VCO circuit, eliminating an external buffer. All of these features combine for a solution that is cost-effective, space efficient, and easy to design.

The LTC5567 provides a highly compact solution footprint with its 4mm x 4mm QFN package. Furthermore, the LTC5567 is specified for case temperature operation from -40°C to 105°C to ensure reliability in harsh environments. With its single 3.3V supply, 89mA current consumption, the LTC5567 draws the lowest power in its class. Additionally, the mixer can be conveniently shut down with an enable control pin. When disabled, the IC draws a maximum of 100µA leakage current. The LTC5567 is priced starting at \$6.50 each in 1,000-piece quantities. Samples and production quantities are available immediately. For more information, visit www.linear.com/product/LTC5567 [1].

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Links:

[1] <http://www.linear.com/product/LTC5567>