

ADC1115S125:

Single 11-bit, 125 Msp/s ADC; input buffer; CMOS or LVDS DDR digital outputs

Product Feature Sheet

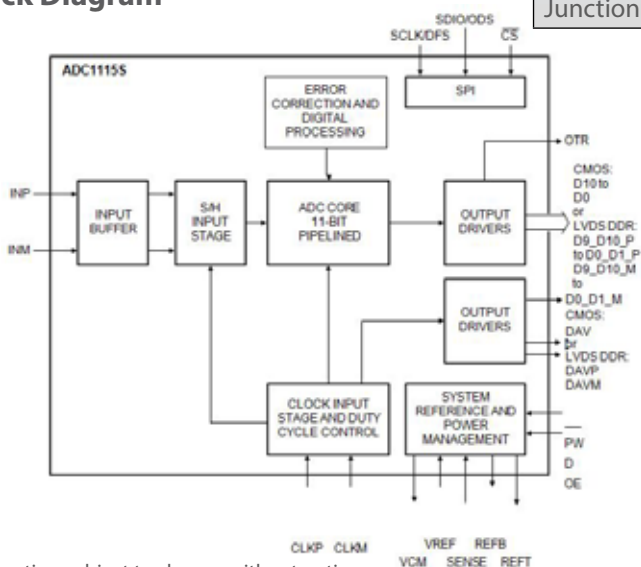
Features

- SNR, 66.5 dBFS; SFDR, 86 dBc
- Input bandwidth, 600 MHz
- Sample rate up to 125 Msp/s
- Power dissipation, 840 mW including analog input buffer
- 11-bit pipelined ADC core
- Serial Peripheral Interface (SPI)
- Clock input divided by 2 for less jitter contribution
- Duty cycle stabilizer
- Integrated input buffer
- Fast Out-of-Range (OTR) detection
- Flexible input voltage range: 1 V (p-p) to 2 V (p-p)
- Offset binary, two's complement, gray code
- CMOS or LVDS DDR digital outputs
- Power-down mode and Sleep mode
- Pin compatible with the ADC1415S series, the ADC1215S series and the ADC1015S series
- HVQFN40 package

Typical Applications

- Wireless and wired broadband communications
- Spectral analysis
- Ultrasound equipment
- Portable instrumentation
- Imaging systems
- Software defined radio
- Digital predistortion loop, power amplifier linearization

Block Diagram



Device Overview

The ADC1115S125 is a single channel 11-bit Analog-to-Digital Converter (ADC) optimized for high dynamic performance and low power consumption at sample rates up to 125 Msp/s. Pipelined architecture and output error correction ensure the ADC1115S125 is accurate enough to guarantee zero missing codes over the entire operating range. Supplied from a single 3 V source, it can handle output logic levels from 1.8 V to 3.3 V in CMOS mode, because of a separate digital output supply.

The ADC1115S125 supports the Low Voltage Differential Signaling (LVDS) Double Data Rate (DDR) output standard. An integrated Serial Peripheral Interface (SPI) allows the user to easily configure the ADC.

The device also includes a SPI programmable full-scale to allow flexible input voltage range from 1 V to 2 V (peak-to-peak). With excellent dynamic performance from the baseband to input frequencies of 170 MHz or more, the ADC1115S125 is ideal for use in communications, imaging and medical applications - especially in high Intermediate Frequency (IF) applications because of the integrated input buffer. The input buffer ensures that the input impedance remains constant and low and the performance consistent over a wide frequency range.

Absolute Maximum Ratings:

Output Voltage	-0.4 V to +3.9 V
Analog Supply Voltage (on pin VDDA3V)	-0.5 V to +4.6 V
Analog Supply Voltage (on pin VDDA5V)	-0.5 V to 6.0 V
Output Supply Voltage	-0.5 V to 4.6 V
Storage Temperature	-55 °C to +125 °C
Ambient Temperature	-40 °C to + 85 °C
Junction Temperature	125 °C