ADC1015S Series:

Single Bit ADC; 125 Msps; CMOS or LVDS DDR Digital Outputs

Product Feature Sheet

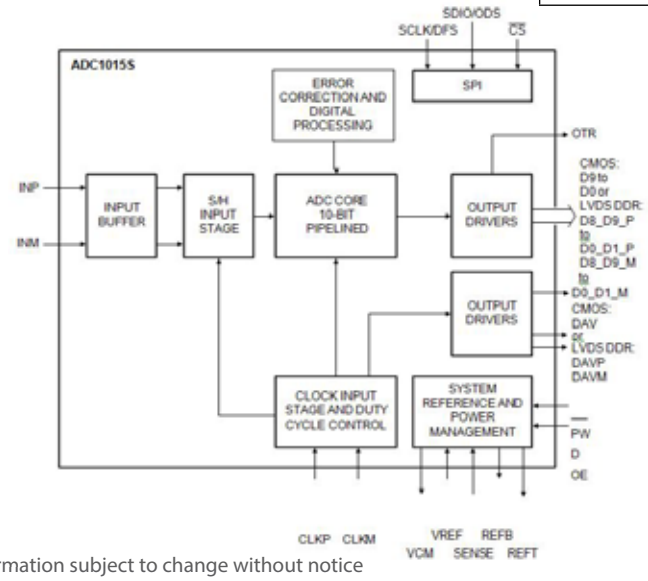
Features

- SNR, 61.7 dBFS / SFDR, 86 dBc
- Sample rate up to 125 Msps
- 10-bit pipelined ADC core
- Clock input divided by 2 for less jitter contribution
- Integrated input buffer
- Flexible input voltage range: 1 V (p-p) to 2 V (p-p)
- CMOS or LVDS DDR digital outputs
- Pin compatible with the ADC1415S series, the ADC1215S series and the ADC1115S125
- Input bandwidth, 600 MHz
- Power dissipation, 635 mW at 80 Msps, including analog input buffer
- Serial Peripheral Interface (SPI)
- Duty cycle stabilizer
- Fast Out-of-Range (OTR) detection
- Offset binary, two's complement, gray code
- Power-down mode and Sleep mode
- 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 ADC1015S is a single channel 10-bit Analog-to-Digital Converter (ADC) optimized for high dynamic performances and low power consumption at sample rates up to 125 Msps. Pipelined architecture and output error correction ensure the ADC1015S 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 ADC1015S 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 ADC1015S 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	-0.4 V to +3.9 V
Output Supply Voltage	-0.4 V to +3.9 V
Storage Temperature	-55 °C to +125 °C
Ambient Temperature	-40 °C to + 85 °C
Junction Temperature	125 °C

Ordering Information

ADC1015S125HN/C1,5	125 Msps
ADC1015S125HN-C1	105 Msps