

# ADC1215S Series:

## Single 12-Bit ADC; 65, 80, 105 or 125 Msps with Input Buffer; CMOS or LVDS DDR Digital Outputs

Product Feature Sheet

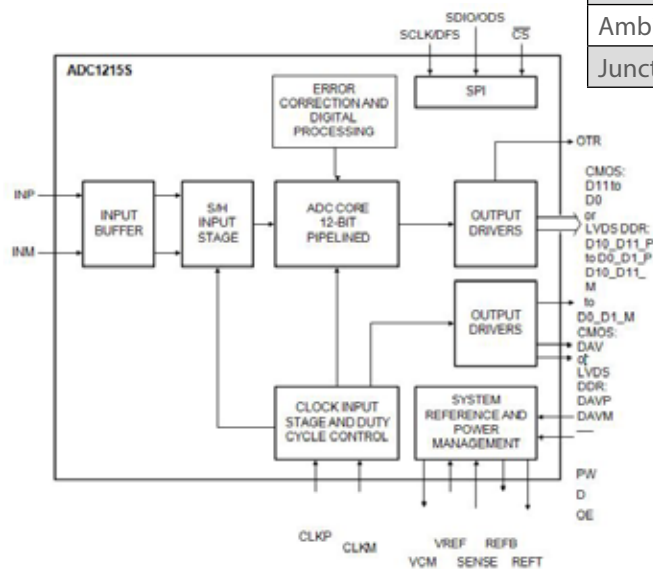
### Features

- SNR, 70 dBFS / SFDR, 86 dBc
- Input bandwidth, 600 MHz
- Sample rate up to 125 Msps
- Power dissipation, 635 mW at 80 Msps, including analog input buffer
- 12-bit pipelined ADC core
- 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 and Sleep modes
- Pin compatible with the ADC1415S series, the ADC1015S series and the ADC1115S125
- HVQFN40 package

### Typical Applications

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

### Block Diagram



### Device Overview

The ADC1215S is a single channel 12-bit Analog-to-Digital Converter (ADC) optimized for high dynamic performance and low power consumption at sample rates up to 125 Msps. Pipelined architecture and output error correction ensure the ADC1215S 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 ADC1215S 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 ADC1215S 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

### Ordering Information

ADC1215S125HN-C1	125 Msps
ADC1215S105HN-C1	105 Msps
ADC1215S080HN-C1	80 Msps
ADC1215S065HN-C1	65 Msps