

# CDK8307

## 12/13-bit, 20/40/50/65/80MSPS, Eight Channel, Ultra Low Power ADC with LVDS



### FEATURES

- 20/40/50/65/80MSPS max sampling rate
- Low Power Dissipation options available
- 72.2dB SNR at 8MHz  $F_{IN}$
- 0.5 $\mu$ s startup time from Sleep
- 15 $\mu$ s startup time from Power Down
- Internal reference circuitry requires no external components
- Internal offset correction
- Reduced power dissipation modes available
- Coarse and fine gain control
- 1.8V supply voltage
- Serial LVDS output
- 12- and 14-bit output available
- Packages: TQFP-80, QFN-64

### APPLICATIONS

- Medical Imaging
- Wireless Infrastructure
- Test and Measurement
- Instrumentation

The CDK8307 is a high performance low power octal analog-to-digital converter (ADC). The ADC employs internal reference circuitry, a serial control interface and serial LVDS output data, and is based on a proprietary structure.

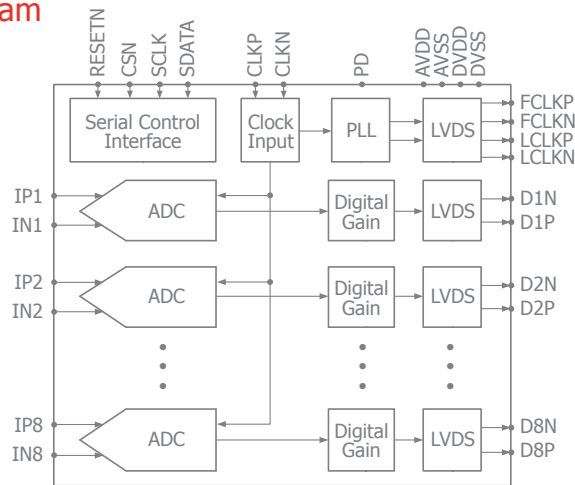
An integrated PLL multiplies the input sampling clock by a factor of 12 or 14, according to the LVDS output setting. The multiplied clock is used for data serialization and data output. Data and frame synchronization output clocks are supplied for data capture at the receiver.

Various modes and configuration settings can be applied to the ADC through the serial control interface (SPI). Each channel can be powered down independently and data format can be selected through this interface. A full chip idle mode can be set by a single external pin. Register settings determines the exact function of this external pin.

The CDK8307 is designed to easily interface with field-programmable gate arrays (FPGAs) from several vendors.

The very low startup times of the CDK8307 allow significant power reduction in duty-cycled systems, by utilizing the Sleep Mode or Power Down Mode when the receive path is idle.

### Block Diagram



### Ordering Information

Part Number	Speed	Package	Pb-Free	RoHS Compliant	Operating Temperature Range	Packaging Method
CDK8307AITQ80	20MSPS	TQFP-80	Yes	Yes	-40°C to +85°C	Tray
CDK8307AILP64	20MSPS	QFN-64	Yes	Yes	-40°C to +85°C	Tray
CDK8307BITQ80	40MSPS	TQFP-80	Yes	Yes	-40°C to +85°C	Tray
CDK8307BILP64	40MSPS	QFN-64	Yes	Yes	-40°C to +85°C	Tray
CDK8307CITQ80	50MSPS	TQFP-80	Yes	Yes	-40°C to +85°C	Tray
CDK8307CILP64	50MSPS	QFN-64	Yes	Yes	-40°C to +85°C	Tray
CDK8307DITQ80	65MSPS	TQFP-80	Yes	Yes	-40°C to +85°C	Tray
CDK8307DILP64	65MSPS	QFN-64	Yes	Yes	-40°C to +85°C	Tray

