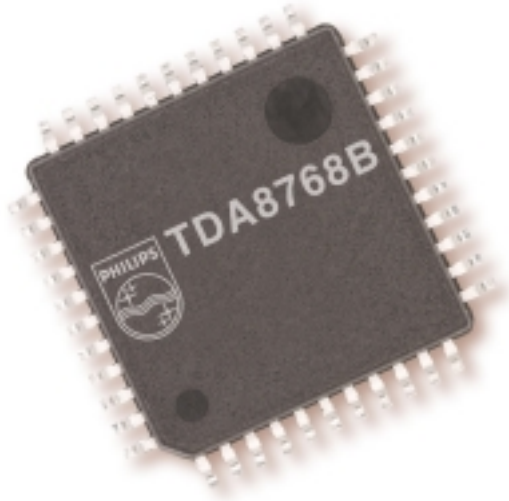


TDA8768B

12-bit ADC 55/80 Msps for High IF Bandpass and Nyquist conversion

Philip Standard Analog's portfolio has recently expanded to include TDA8768B, a BiCMOS 12-bit analog-to-digital converter. The TDA8768B ADC is optimized for GSM/EDGE and W-CDMA cellular infrastructure and professional telecommunications applications. In addition, this device is well suited for advanced FM radio, medical imaging, set-top boxes, camera scanners and radar applications.



Features

- 12-bit resolution
- 55/80 MHz sampling rate
- Operating signals examples:
 - 52 Msps @ IF=175 MHz; 200 kHz bandwidth
 - 80 Msps @ IF=20 MHz; Nyquist bandwidth
 - 80 Msps @ IF=50 MHz; 5 MHz bandwidth
- Bandwidth 250 MHz @ -3 dB
- 5 V power supply and 3.3 V output power supply
- Binary or two's-complement CMOS outputs
- In-range CMOS-compatible output
- TTL-CMOS-compatible static digital inputs
- TTL-CMOS-compatible digital outputs
- TTL clock compatible
- Integrated sample and hold amplifier

Benefits

- High IF bandpass conversion applications
- Easy system integration
- Controlled full scale
- High input impedance and low analog input capacitance
- Integrated voltage controlled regulators

Semiconductors

Description

Philips Standard Analog's portfolio of high-speed data converters family currently provides the best-in-class solutions for all applications requiring a wide dynamic range with high resolution and sampling rates. The portfolio recently expanded to include the TDA8768B, a 12-bit analog to digital converter in BiCMOS technology.

The TDA8768B is optimized for EDGE and W-CDMA cellular infrastructure and professional telecommunications applications. In addition, this device is well suited for advanced FM radio, medical imaging, set-top box, camera scanner and radar applications.

With high speed sampling rates of up to 80 Msps, the TDA8768B provides solutions for various operating points, such as Nyquist or IF sampling. Due to its wide analog bandwidth of 250MHz, this device functions with several possible input frequencies (from Nyquist up to 176MHz). The TDA8768B converts an analog input signal into 12-bit binary coded digital words. The device is compatible with all static digital inputs (SH, CEN, OTC) and is TTL and CMOS compatible.

The Philips Standard Analog's TDA8768B is offered in a QFP44 package and is pin for pin compatible with the TDA8768A – a 12-bit ADC with 55/70 Msps. The TDA8768B has been designed to be compliant with the TDA9901 device, a wideband programmable amplifier. When used in conjunction, these devices help improve dynamic performance for single carrier architectures.

Applications

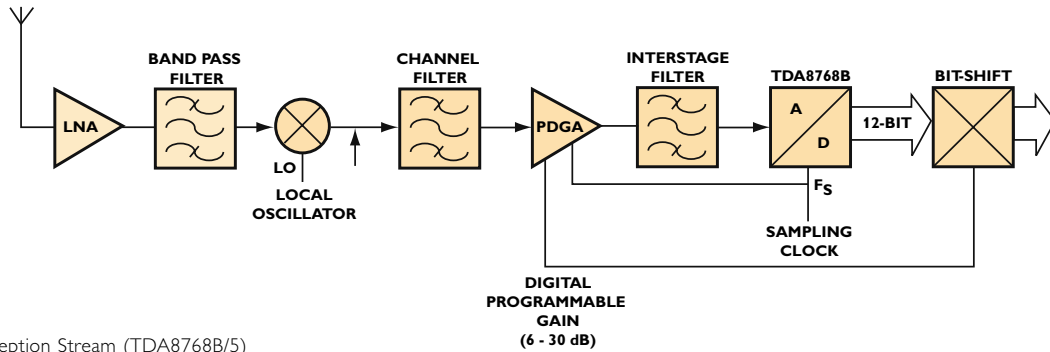
- Cellular infrastructure (EDGE and W-CDMA)
- Professional telecommunication
- Advanced FM radio
- Radar
- Camera scanner
- Set top box
- Medical imaging

TDA8768B

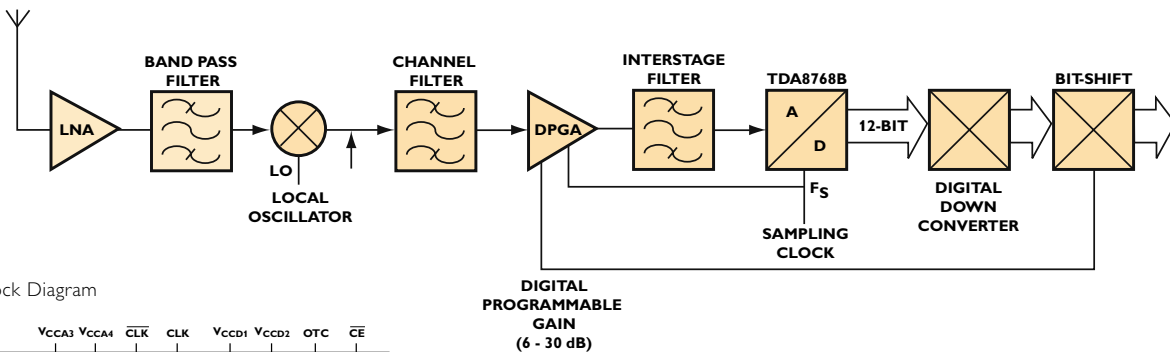
12-bit ADC 55/80 Msps for High IF Bandpass and Nyquist conversion



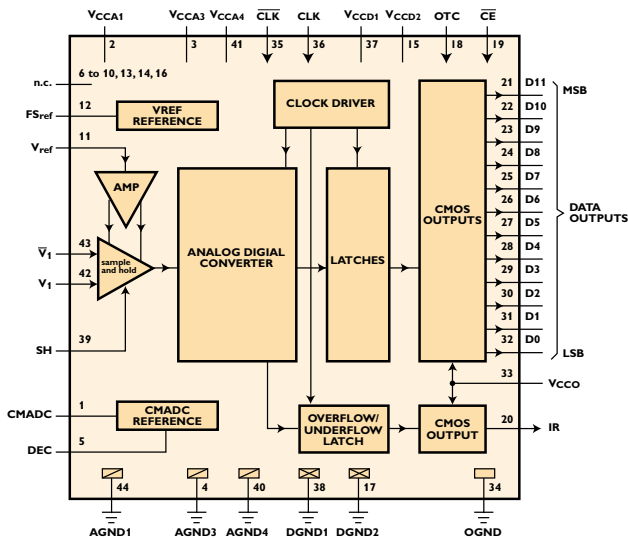
Nyquist Reception Stream (TDA8768B/8)



High IF Bandpass Reception Stream (TDA8768B/5)



TDA8768B Block Diagram



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