

PRODUCT SUMMARY

CX72303: 1.8 V Ultra-Low Power Bluetooth™ RF Transceiver

APPLICATIONS

- ISM 2.4 GHz frequency band
- Personal wireless connectivity
- Cellular phones, handsets, headsets, and earpieces
- PDAs and palm-top computers
- PC and laptop computers

FEATURES

- Fully integrated single-chip transceiver with on-chip VCO, synthesizer, PA, LNA, image-reject downconverter, IF filters, RSSI, and demodulator for the ISM 2.4 GHz band
- Class 2 and 3 Bluetooth v1.1 compliant
- –82 dBm typical Rx sensitivity at antenna
- Low voltage supply (1.8 V)
- Internal dual mode 1.5 V/1.8 V regulator available on CX72303-61 option; CX72303-11 option offers 1.5 V regulator only
- 19 mA peak Tx current at maximum power
- 24 mA peak Rx current consumption
- 11 mA peak Tx current at –10 dBm
- 15 μ A low power timing clock mode
- <1 μ A power-down current consumption
- –40 to +85 °C Bluetooth-compliant temperature range
- –70 to +125 °C functional temperature range
- Digital crystal frequency error compensation up to ± 36 ppm
- Programmable Tx power control over 30 dB range with 2 dB steps
- High efficiency direct modulation transmitter using $\Delta\Sigma$ fractional-N synthesizer
- Low phase noise and closed loop PLL transmitter
- Integrated PLL-based FSK digital demodulator. No external component required
- Fast dynamic threshold FSK bit slicer
- High reliability, high yield SiGe BiCMOS process with low multiplicative 1/f noise
- Programmable 120 to 180 μ s synthesizer settling time
- Available in a 48-pin BCC++ package

DESCRIPTION

The CX72303 is the lowest powered, fully integrated single-chip Bluetooth™ radio transceiver. Fully compliant with Bluetooth Specification v1.1, the CX72303 was designed from the ground up for extreme low power operation in handsets, headsets, or other power sensitive applications. Extreme low power 1.8 V operation is combined with high performance to exceed the Bluetooth requirements for Class 2 and 3 operation.

The CX72303 has an internal voltage regulator that allows operation with higher supply voltages while holding the line on power consumption. An extended frequency range is provided to allow operation in all 2.4 GHz Industrial, Scientific, and Medical (ISM) band regulatory jurisdictions. Transmitter output power is up to +3 dBm with a typical receiver sensitivity of –82 dBm at the antenna.

Fabricated in a Silicon-Germanium (SiGe) Bi-polar Complementary Metal Oxide Semiconductor (BiCMOS) process, the CX72303 is a state-of-the-art mixed signal device mounted in a small, low profile 7 x 7 x 0.8 mm Bump Chip Carrier (BCC++) 48-pin package.

A block diagram of the CX72303 is shown in Figure 1.

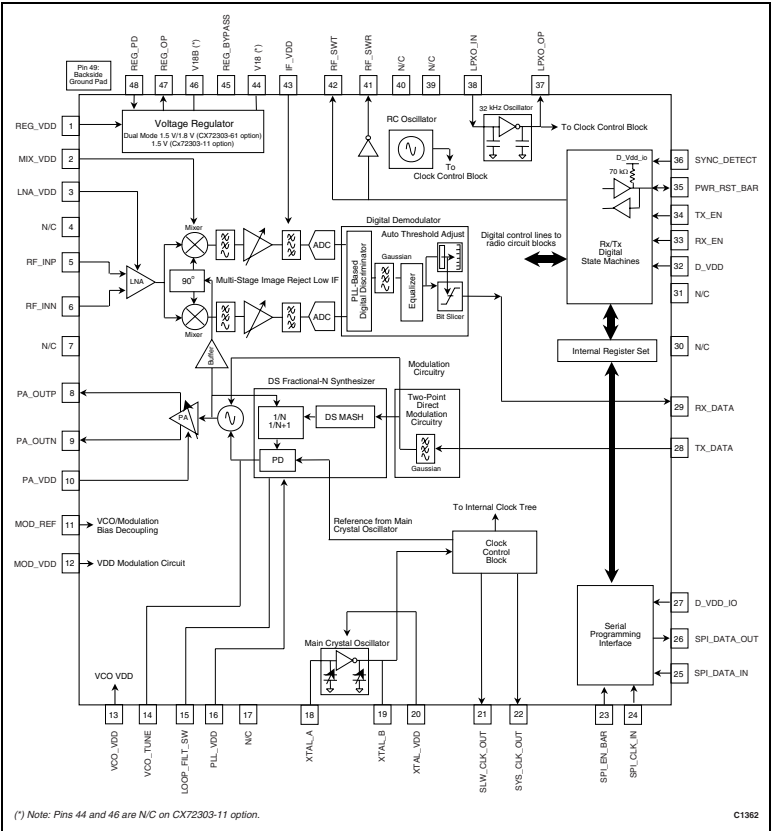


Figure 1. CX72303 Block Diagram

Ordering Information

Model Name	Manufacturing Part Number	Product Revision
CX72303 with 1.5 V regulator	CX72303-11	
CX72303 with dual-mode 1.5 V/1.8 V regulator	CX72303-61	

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