

nRF52832 Product Specification



Contents

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1. nRF52832 Product Specification

This Product Specification contains functional descriptions, register tables, and electrical specifications, and is organized into chapters based on the modules and peripherals that are available in this IC.

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Note: The HTML rendition of the Product Specification corresponds to the latest version only. All versions are available as PDF files.

| Key features | Applications |
|--|--|
| <ul style="list-style-type: none"> • 2.4 GHz transceiver <ul style="list-style-type: none"> • -96 dBm sensitivity in Bluetooth® Low Energy mode • Supported data rates: 1 Mbps, 2 Mbps Bluetooth Low Energy mode • -20 to +4 dBm TX power, configurable in 4 dB steps • On-chip balun (single-ended RF) • 5.3 mA peak current in TX (0 dBm) • 5.4 mA peak current in RX • RSSI (1 dB resolution) • Arm® Cortex®-M4 32-bit processor with FPU, 64 MHz <ul style="list-style-type: none"> • 215 EEMBC CoreMark score running from flash memory • 58 µA/MHz running from flash memory • 51.6 µA/MHz running from RAM • Data watchpoint and trace (DWT), embedded trace macrocell (ETM), and instrumentation trace macrocell (ITM) • Serial wire debug (SWD) • Trace port • Flexible power management <ul style="list-style-type: none"> • 1.7 V–3.6 V supply voltage range • Fully automatic LDO and DC/DC regulator system • Fast wake-up using 64 MHz internal oscillator • 0.3 µA at 3 V in System OFF mode • 0.7 µA at 3 V in System OFF mode with full 64 kB RAM retention • 1.9 µA at 3 V in System ON mode, no RAM retention, wake on RTC | <ul style="list-style-type: none"> • Internet of Things (IoT) <ul style="list-style-type: none"> • Home automation • Sensor networks • Building automation • Industrial • Retail • Personal area networks <ul style="list-style-type: none"> • Health/fitness sensor and monitor devices • Medical devices • Key fobs and wrist watches • Interactive entertainment devices <ul style="list-style-type: none"> • Remote controls • Gaming controllers • Beacons • A4WP wireless chargers and devices • Remote control toys • Computer peripherals and I/O devices <ul style="list-style-type: none"> • Mouse • Keyboard • Multi-touch trackpad |

| Key features | Applications |
|--|--|
| <ul style="list-style-type: none"> • Memory <ul style="list-style-type: none"> • 512 kB flash/64 kB RAM • 256 kB flash/32 kB RAM • Nordic SoftDevice ready • Support for concurrent multi-protocol • Type 2 near field communication (NFC-A) tag with wakeup-on-field and touch-to-pair capabilities • 12-bit, 200 ksps ADC - 8 configurable channels with programmable gain • 64 level comparator • 15 level low power comparator with wakeup from System OFF mode • Temperature sensor • 32 general purpose I/O pins • 3x 4-channel pulse width modulator (PWM) unit with EasyDMA • Digital microphone interface (PDM) • 5x 32-bit timer with counter mode • Up to 3x SPI master/slave with EasyDMA • Up to 2x I2C compatible 2-wire master/slave • I2S with EasyDMA • UART (CTS/RTS) with EasyDMA • Programmable peripheral interconnect (PPI) • Quadrature decoder (QDEC) • AES HW encryption with EasyDMA • Autonomous peripheral operation without CPU intervention using PPI and EasyDMA • 3x real-time counter (RTC) • Single crystal operation • Package variants <ul style="list-style-type: none"> • QFN48 package, 6 × 6 mm • WLCSP package, 3.0 × 3.2 mm | <ul style="list-style-type: none"> • Gaming |