TDA 5150

Multiband, Multichannel Low Power Transmitter

THE TDA 5150 is a single-chip, ultra low power multiband, multichannel transmitter, intended for the sub 1 GHz ISM bands. This device is based on RF-CMOS technology, combining outstanding RF performance with the flexibility of digital circuits.

The very low standby current and the high efficiency power amplifier make the TDA 5150 ideal for all battery powered applications.

With just one single chip and any crystal from 12 – 14 MHz you can cover the sub 1 GHz ISM frequency bands lowering your logistic and production costs. This device will support your applications requiring lowest resolution and datarates up to 100 kbit/s.

Gain from design speed and flexibility by using this fully programmable, high performance RF transmitter!

Key Features

- Multiband, Multichannel (300 – 320 MHz, 425 – 450 MHz, 863 – 928 MHz) for worldwide operations coverage
- Sigma-Delta fractional-N PLL synthesizer
  - Direct FM modulation with up to 100 Hz resolution
  - Any crystal from 12 – 14 MHz suitable
- Datarate up to 100 kbit/s with several embedded encodings and modulation schemes: ASK, FSK and Gaussian FSK supported
- Programmable output power (+5, +8 and +10 dBm) with one RF matching network
- Low supply current
  - 0.4 µA in Power down
  - 9 mA for 434 MHz transmission @ +5 dBm
  - 16 mA for 868 MHz transmission @ +10 dBm
- On-chip tuning of the antenna matching circuitry
- Programmable operating parameters via 3 wire-SPI bus
- Divided clock output for clocking the microcontroller
- Voltage supply range 1.9 ... 3.6 V
- Super slim TSSOP-10 pin green package
- Operating temperature range –40 ... +85°C
- Automotive Qualified
- Easy-to-use evaluation kit

Applications

- Low power short range radio data transmission
- Automatic Meter Reading
- Wireless alarm and security systems
- Home automation
- Remote keyless entry system
- Industrial monitoring and control
- Consumer Electronics

Key Benefits

- One single part covers the sub 1 GHz ISM bands
- Implement Frequency Diversity and Frequency Hoping Spread Spectrum for interference robust communications
- Operations over the entire Lithium Cell voltage range for extended battery life-time
- Only 6 external components including matching and bias are required
- One single crystal for both transmitter and microcontroller reduces system BOM
- User-friendly Software, Documentation and Evaluation Boards

RoHS

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Wireless Control

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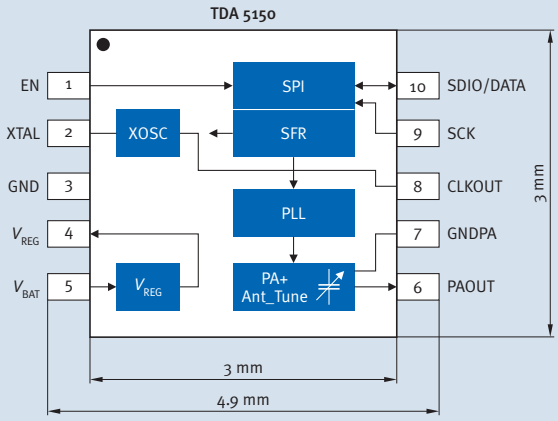
Never stop thinking

Block Diagram



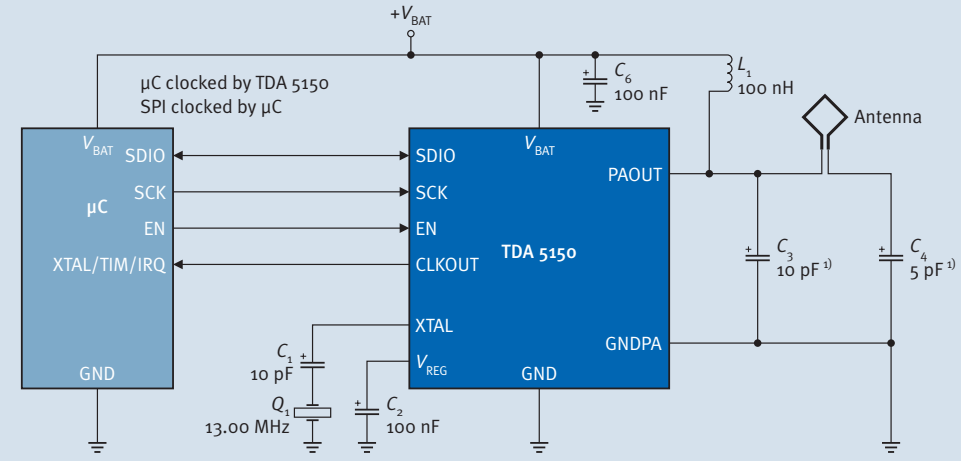
Product Summary

Type	Ordering Code	Package
TDA 5150	SP000300415	PG-TSSOP-10

Development Kit

Type	Ordering Code	Frequency Band [MHz]	Output Power [dBm]
TDA5150_315_5 BOARD	SP000356305	315	5
TDA5150_434_10 BOARD	SP000356304	434	10
TDA5150_434_5 BOARD	SP000356301	434	5
TDA5150_868_10 BOARD	SP000356303	868	10
TDA5150_915_10 BOARD	SP000356302	915	10
TDA5150 SIB BOARD	SP000357842	This board is required for device evaluation together with the TDA5150_X_X BOARD	

Application Example



1) Values valid for 433 MHz

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Information

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office (www.infineon.com).

Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.

Infineon Technologies components may be used in life-support devices or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

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