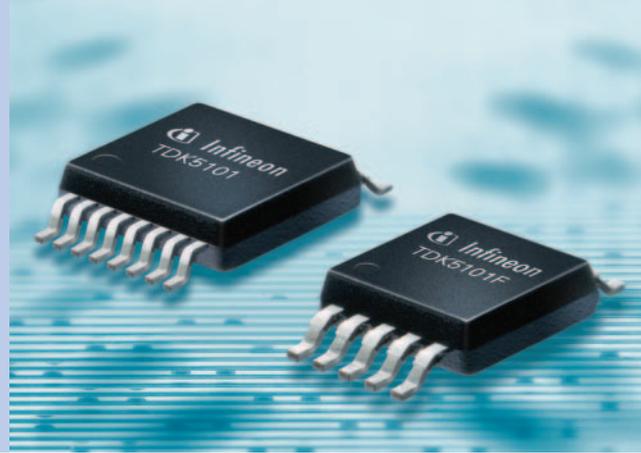


# TDK510x(F) Series

315/434/868 MHz,  
ASK/FSK Transmitters (-40 ... +125°C)



**Wireless Control** – The TDK510x(F) family is a group of single chip ASK/FSK transmitters for the frequency bands 311–317 MHz, 433–435 MHz and 868–870 MHz. The IC offers a high level of integration and needs only a few external components. The device contains a fully integrated PLL synthesizer and a high efficiency power amplifier to drive a loop antenna. A special circuit design and an unique power amplifier design are used to save current consumption and therefore to save battery life. Additional features like power down mode, low power detect, selectable crystal oscillator frequency and divided clock output are implemented. The IC can be used for both ASK and FSK modulation.

## Applications

- Remote Keyless Entry (RKE) systems
- Tire Pressure Monitoring (TPM) systems
- Remote control systems
- Alarm systems
- Communication systems

## Ordering Information

Type	Ordering Code	Package
TDK5100	Q67100-H2060	P-TSSOP-16
TDK5101	Q67100-H2062	P-TSSOP-16
TDK5100F	Q62705-K721	P-TSSOP-10
TDK5101F	Q62705-K720	P-TSSOP-10

## Evaluation Kits

Type	Modulation	Frequency	Ordering Code
TDK5100-TDA5220	ASK/FSK	434 MHz	Q62705-K716
TDK5100-TDA5220	ASK/FSK	868 MHz	Q62705-K717
TDK5101-TDA5221	ASK/FSK	315 MHz	Q62705-K718
TDK5100F-TDA5220	FSK	434 MHz	Q62705-K736
TDK5101F-TDA5221	FSK	315 MHz	Q62705-K735

## Features

- Frequency ranges  
311–317 MHz/433–435 MHz/868–870 MHz
- ASK and FSK modulation
- Fully integrated frequency synthesizer
- VCO without external components
- Power down mode
- Integrated FSK-switch
- Low external component count
- Low supply current (typ. 7 mA)
- Voltage supply range 2.1–4 V
- Temperature range -40 ... +125°C

## Additional Features TDK510x

- Low voltage sensor
- Programmable clock-output

## Additional Features TDK5100 (only)

- Switchable frequency ranges  
433–435 MHz/868–870 MHz
- Selectable crystal oscillator 6.78 MHz/13.56 MHz
- High efficiency power amplifier  
(typ. 5 dBm@434 MHz/2 dBm@868 MHz)

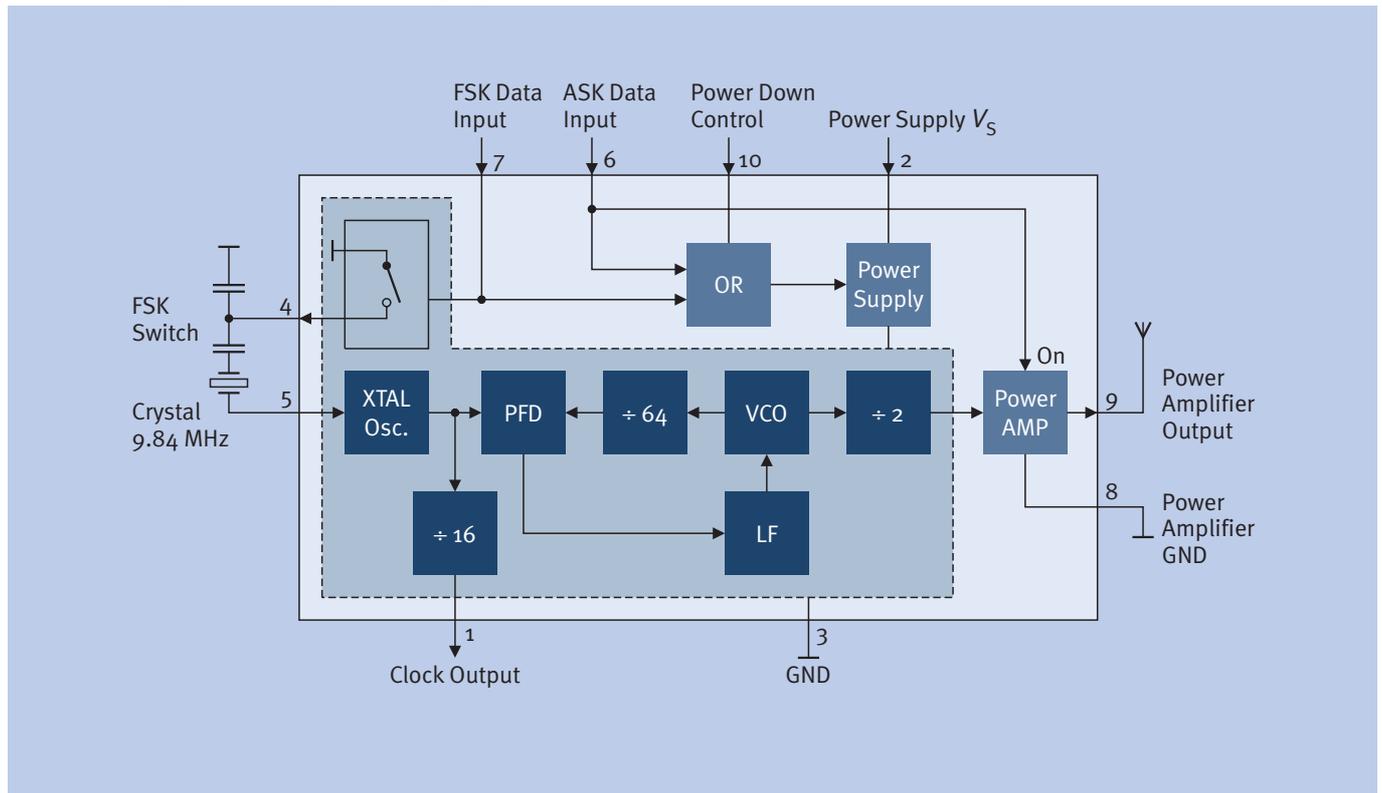
[www.infineon.com/wireless](http://www.infineon.com/wireless)

# Wireless Control



Never stop thinking.

## Block Diagram TDK5101F, 315 MHz



Type	TDK5100	TDK5101	TDK5100F	TDK5101F
Frequency Range	868 – 870 MHz 433 – 435 MHz	311 – 317 MHz	433 – 435 MHz	311 – 317 MHz
Data Rate	20 kHz (ASK/FSK)	20 kHz (ASK/FSK)	20 kHz (ASK/FSK)	20 kHz (ASK/FSK)
Supply Voltage	2.1 – 4 V	2.1 – 4 V	2.1 – 4 V	2.1 – 4 V
Supply Current typ. (PLL Enable Mode/ Transmit Mode $V_s = 3$ V)	3.5/7 mA	3.5/7 mA	3.3/7 mA	3.3/7 mA
Power Down Current	4 $\mu$ A	4 $\mu$ A	4 $\mu$ A	4 $\mu$ A
Modulation	ASK/FSK	ASK/FSK	ASK/FSK	ASK/FSK
RF Transmit Power typ.	5 dBm (434 MHz) 2 dBm (868 MHz)	5 dBm (315 MHz)	5 dBm (434 MHz)	5 dBm (315 MHz)
Package	P-TSSOP-16	P-TSSOP-16	P-TSSOP-10	P-TSSOP-10
Temperature Range	-40°C ... +125°C	-40°C ... +125°C	-40°C ... + 125 °C	-40°C ... + 125 °C

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Published by  
**Infineon Technologies AG,**  
 St.-Martin-Strasse 53,  
 81669 München

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Ordering No. B138-H8367-X-X-7600  
 Printed in Germany  
 PS 03042. NB