



## TDA 7210V

### ASK/FSK Receiver for the 434 and 868MHz frequency bands in a tiny VQFN package

MORE AND MORE CONSUMER PRODUCTS become small and smaller and engineers try hard to reduce PCB area and cost wherever possible.

With TDA 7210V Infineon offers a VQFN-32 package variant of its popular TDA 7210 receiver for very size sensitive applications like small set-top-box designs or lighting control receiver which have to fit into a light bulb.

TDA 7210V is an ASK/FSK superheterodyne receiver for the 434 and 868MHz ISM-bands targeting all industrial and consumer applications. The device is highly integrated and requires only a few external components. The low current consumption of only 5mA and a typical ASK sensitivity of -115 dBm at a datarate of 1kbit/s are the key benefits of this IC.

#### Applications

- Remote control systems
- Home automation
- Lighting control
- Security and alarm systems
- Industrial control
- Low bit-rate communication systems

#### Ordering information

Type	Package	Ordering Code
TDA 7210V	PG-VQFN-32	SP000698080

#### Evaluation kit

Type	Modulation	Frequency	Ordering Code
TDA7110F_TDA7210V_434_10	ASK/FSK	434 MHz	SP000745284
TDA7116F_TDA7210V_868_10	ASK/FSK	868 MHz	SP000745290

#### Main Features

- ASK and FSK demodulation
- Frequency range:  
400 to 440MHz, 810 to 870MHz
- ASK sensitivity typically -115dBm over full temperature range at 1kbit/s datarate
- FSK sensitivity typically -112dBm over full temperature range at 1kbit/s datarate
- Low supply current
- Very low supply current in power down mode (50nA typ.)
- Fully integrated PLL Synthesizer and VCO (no need for external VCO coils)
- IF limiter with RSSI generation, centered on 10.7MHz
- Data filter with external capacitors and integrated resistors (resulting in high flexibility by processing different data rate)
- Built-in AGC with user-presetable threshold for LNA Low/High gain switch-over
- Temperature range -40 to +85°C
- 4.5 x 5.5mm small VQFN-32 package



# TDA 7210V

Target Application	Transmitter	Receiver
High Featured <ul style="list-style-type: none"> <li>■ MultiChannel</li> </ul>	SmartLEWIS™ TX TDA 5150	SmartLEWIS™ RX TDA 523x
Automotive/High Temperature <ul style="list-style-type: none"> <li>■ High temperature range</li> <li>■ Variants for 315, 434, 868 and 915MHz</li> <li>■ Full automotive qualified</li> </ul>	SmartLEWIS™ MCU PMA 51xx TDA 510x TDA 521x	TDA 520x TDA 521x TDA 522x
Industrial <ul style="list-style-type: none"> <li>■ -40 to +85°C</li> <li>■ 434 and 868MHz</li> <li>■ ASK and FSK</li> </ul>	SmartLEWIS™ MCU PMA 71xx TDA 711xF TDA 7110	TDA 7210V VQFN-32 TDA 7210
Consumer <ul style="list-style-type: none"> <li>■ -20 to +70°C</li> <li>■ 434MHz, ASK</li> </ul>	TDA 7100	TDA 7200

## TDA 7210V – Part of a Comprehensive and Complementary Product Portfolio

Benefit from Infineon's high quality transmitter and receiver product portfolio to find the right and cost effective solution for your application needs.

For detailed parametric search please visit our website  
[www.infineon.com/wirelesscontrol](http://www.infineon.com/wirelesscontrol)

## Product Summary

Parameter	Value	
Frequency Range	400 to 440MHz	810 to 870MHz
Modulation	Optional ASK and FSK	
Sensitivity (ASK, 1kbit/s)	-115dBm typ. (-40 to +85°C)	
Sensitivity (ASK, 4kbit/s)	-112dBm typ. (-40 to +85°C)	
Sensitivity (FSK, 1kbit/s)	-112dBm typ. (-40 to +85°C)	
Sensitivity (FSK, 4kbit/s)	-108dBm typ. (-40 to +85°C)	
Frequency Setting	According to chosen crystal and prescaler settings (division ratio)	
Loop Filter	2 <sup>nd</sup> order, no external components	
Data Rate	Up to 100kBaud	
Supply Voltage	5V ±10%	
Power Down Mode	Yes	
Power Down Current	50nA typ.	
Supply Current (FSK)	Min. 4.9mA / Max. 6.5mA	Min. 5.1mA / Max. 6.7mA
Supply Current (ASK)	Min. 4.2mA / Max. 5.8mA	Min. 4.4mA / Max. 6.0mA
Operating Temperature Range	-40 to +85°C	
Package	PG-VQFN-32: 4.5 x 5.5mm	

How to reach us:  
<http://www.infineon.com>

Published by  
 Infineon Technologies AG  
 81726 Munich, Germany

© 2010 Infineon Technologies AG  
 All Rights Reserved.

**Legal Disclaimer** The information given in this Product Brief shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

**Information** For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office ([www.infineon.com](http://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.