



TDA 7110, TDA 7110F, TDA 7116F

ASK/FSK Transmitter for the 434 and 868 MHz Frequency Band

The TDA 711x(F) products are single chip ASK/FSK transmitter operating in the 434 and 868MHz frequency band. The ICs offer a high level of integration and need only a few external components to build a complete transmitter solution. The products vary in package and supported frequency band.

The devices contain a fully integrated PLL synthesizer and a high efficiency power amplifier to drive the antenna. A special circuit design, a unique power amplifier and a power down feature contribute to low current consumption and to extended battery life.

The ICs have a clock output for the micro-controller and as such enable the usage of only one crystal in the application. Additionally, TDA 7110 features a selectable clock divider ratio.

Applications

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

Ordering Information

Type	Package	Frequency	Ordering Code
TDA 7110	PG-TSSOP-16	434 and 868MHz	SP000524278
TDA 7110F	PG-TSSOP-10	434MHz	SP000611108
TDA 7116F	PG-TSSOP-10	868MHz	SP000611114

Evaluation Kit

Type	Modulation	Frequency	Ordering Code
TDA7110-TDA7210_868_10	ASK/FSK	868MHz	SP000546902
TDA7110F-TDA7210_434_10	ASK/FSK	434MHz	SP000628800

Main Features

- ASK and FSK modulation
- Frequency range @ 25°C (depending on device):
427 to 442MHz, 854 to 884MHz
- High efficiency power amplifier (typ. +10dBm output power at 3V supply voltage)
- Low supply current (depending on device):
 $I_s = \sim 14.0\text{mA}$ typ. in transmit mode ($V_s = 3\text{V}$)
- Very low supply current in power down mode (0.25nA typ.)
- Supply voltage range 2.1 to 4V
- Temperature range -40 to +85°C
- Built-in low/high frequency switch for FSK Mode
- Clock output for μC
- TDA 7110 only:
selectable clock divider ratio
- Crystal oscillator in 13.5MHz band and 6MHz band (TDA 7110 only)
- Fully integrated PLL frequency synthesizer
- Fully integrated VCO (no need for external components)
- Low external component count



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Target Application	Transmitter	Receiver
High Featured <ul style="list-style-type: none"> MultiChannel 	SmartLEWIS™ TX TDA 5150	SmartLEWIS™ RX TDA 523x
Automotive/High Temperature <ul style="list-style-type: none"> High temperature range Variants for 315, 434, 868 and 915MHz Full automotive qualified 	SmartLEWIS™ MCU PMA 51xx TDK 510x TDK 511x	TDA 520x TDA 521x TDA 522x
Industrial <ul style="list-style-type: none"> -40 to +85°C 434 and 868MHz ASK and FSK PG-TSSOP-16 and PG-TSSOP-10 package variants 	SmartLEWIS™ MCU PMA 71xx TDA 7110 TDA 7110F TDA 7116F	TDA 7210
Consumer <ul style="list-style-type: none"> -20 to +70°C 434MHz, ASK 	TDA 7100	TDA 7200

TDA 711x(F)–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 and further information please visit our website www.infineon.com/wirelesscontrol

Product Summary

Parameter	TDA7110	TDA7110F	TDA7116F
Frequency Range @ 25°C	427 to 442MHz and 854 to 884MHz	427 to 442MHz	854 to 884MHz
Frequency Range over specified Temp. Range	432 to 437MHz and 864 to 874MHz	432 to 437MHz	864 to 874MHz
Output Power	typ. +10dBm @ 3V		
Modulation	Optional ASK and FSK		
Data Rate	20kHz both, ASK and FSK		
Power Down Mode	Yes		
Power Down Current	0.25nA typ.		
Supply Current (PLL enable mode)	4.0mA typ.		
Supply Current (Transmit Mode at $V_s = 3V$)	13.8mA typ.	14.2mA typ.	14.0mA typ.
Supply Voltage	2.1 to 4.0V		
Operating Temperature Range	-40 to +85°C		
Package	PG-TSSOP-16	PG-TSSOP-10	PG-TSSOP-10

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