

Product Overview

AX5031: RF Transmitter IC, Low Power, Highly Efficient

For complete documentation, see the data sheet.

The AX5031 is a universal single chip, low power RF-transmitter for the 433/868/915 MHz bands. AX5031 offers output power of up to 15 dBm at data rates of up to 350 kbps for FSK modulated data and up to 2000 kbps for ASK or PSK modulated data. It is a highly integrated, flexible, low power and low cost solution that supports multi channel operation for channels bandwidths above 40 kHz. Designed for low power and direct battery operation.

An integrated voltage regulation system allows the direct use of batteries and short start-up times enable time- and energy-efficient protocols. The high efficiency PA has a flat output power characteristic over supply voltage and temperature. These performance details make the AX5031 ideal for battery powered portable applications.

The AX5031 supports FSK, GFSK, MSK, 4-FSK, PSK and ASK modulations. All modulations are shaped. The AX5031 features an easy to use protocol implemented in hardware. This guarantees shortest code size and lowest CPU usage of a microcontroller. CRCs are calculated automatically. Digital spread spectrum is possible on all modulations.

External components are only a crystal, an antenna and a few passive components. All parameters of the AX5031 including modulation, frequency, deviation and output power can be programmed via an SPI interface. Systems built with the AX5031 provide cost-efficient, longest range communication links.

Features

- Supported modulations: FSK, MSK, GFSK, 4-FSK, PSK and ASK
- Communication with the device via SPI interface
- Supports HDLC and Raw frames in hardware
- RF Carrier and FSK deviation programmable in 1 Hz steps
- Wide supply range for direct battery connection
- Brown-out detection
- Freely programmable general purpose IOs

Applications

- Telemetry
- Wireless audio
- Wireless networks
- Wireless M-Bus
- Access control

End Products

- Toys
- Remote controls
- Remote keyless entry
- Active RFID

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Data Transmission Standard	Frequency Band (MHz)	Carrier Frequency (MHz)	Package Type
AX5031-1-TW30	0.8297	Pb-free Halide free non AEC-Q and PPAP	Active	4-FSK ASK FSK GFSK MSK PSK	400-470 800-940	-	QFN-20

For more information please contact your local sales support at www.onsemi.com.

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