

# Product Information

## TH72031

### 868/915MHz FSK Transmitter

The TH72031 FSK transmitter IC is designed for applications in the European 868 MHz industrial-scientific-medical (ISM) band, according to the EN 300 220 telecommunications standard. It can also be used for any other system with carrier frequencies ranging from 850 MHz to 930 MHz (e.g. for applications in the US 902 to 928 MHz ISM band).

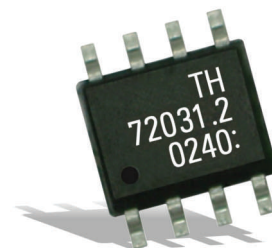
The transmitter's carrier frequency  $f_c$  is determined by the frequency of the reference crystal  $f_{ref}$ . The integrated PLL synthesizer ensures that each RF value, ranging from 850 MHz to 930 MHz, can be achieved. This is done by using a crystal with a reference frequency according to:  $f_{ref} = f_c/N$ , where  $N = 32$  is the PLL feedback divider ratio.

## Features

- Fully integrated PLL-stabilized VCO
- Frequency range from 850 MHz to 930 MHz
- Single-ended RF output
- FSK through crystal pulling allows modulation from DC to 40 kbit/s
- High FSK deviation possible for wideband data transmission
- Wide power supply range from 1.95 V to 5.5 V
- Wide operating temperature range from  $-40^{\circ}\text{C}$  to  $125^{\circ}\text{C}$

- Very low standby current
- On-chip low voltage detector
- High over-all frequency accuracy
- FSK deviation and center frequency independently adjustable
- Adjustable output power range from  $-12\text{ dBm}$  to  $+9.5\text{ dBm}$
- Adjustable current consumption from 5.1 mA to 13.4mA
- Conforms to EN 300 220 and similar standards
- 8-pin Small Outline Integrated Circuit (SOIC8)

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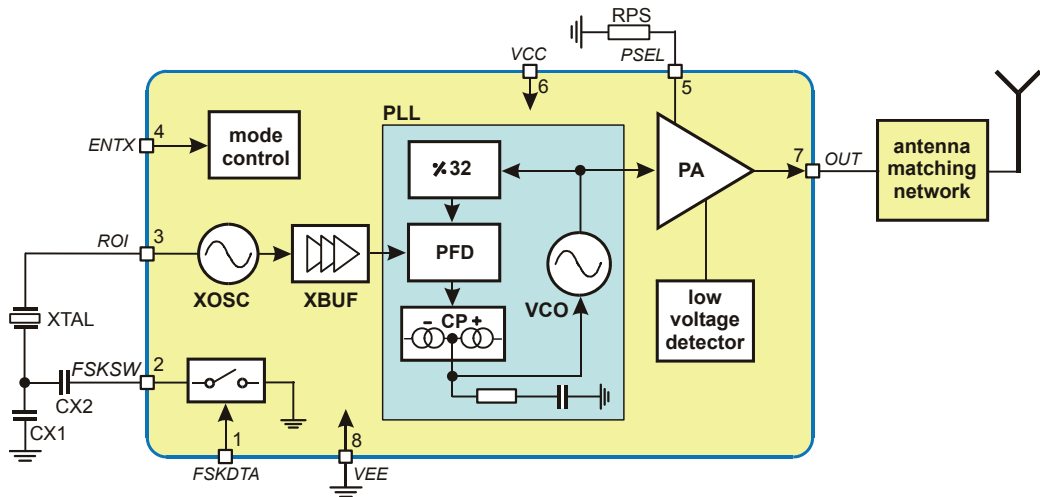
Silicon MEMS

CMOS Imaging

Bus ICs

IR Temperature

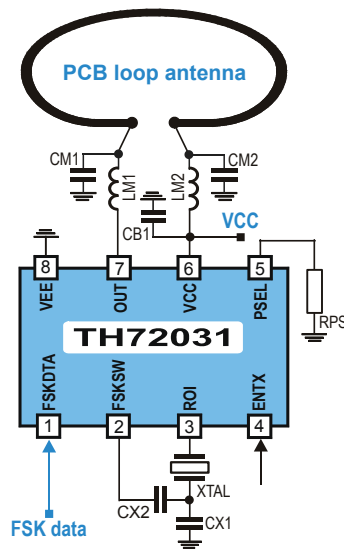
# Block Diagram with external Components



## Applications

- General digital data transmission
- Tire Pressure Monitoring Systems (TPMS)
- Remote Keyless Entry (RKE)
- Low-power telemetry systems
- Home and building automation
- Alarm and security systems
- Garage door openers
- Remote controls

## Application Circuit



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