ZMD41201

ISO 15693 Read/Write Wireless Tag IC

Features

- Passive transponder with on-chip energy storage capacitor, hence no external supply buffer capacitor is needed
- Operating at 13.56 MHz with on-chip tank capacitor
- Anti-collision capability
- Communication range up to 1 meter
- 2k bits of wireless-programmable EEPROM
- On-chip rectifier and voltage limiter
- ISO/IEC 15693 compliant

Operating Reference Data

Temperature Range ..... -40 to 85°C
Supply Voltage, V_{DD} ..... 0.9 to 1.5 V
Typical Supply Current (activation field) .....7 µA
Frequency Range..... 13.56MHz ±7 kHz

Description

The ZMD41201 is a fully integrated 13.56 MHz ISO 15693 compliant wireless tag transponder circuit. The on-chip EEPROM can be written in downlink direction and read in uplink direction by inductive coupling from a reader. The power is also extracted from the reader through inductive coupling. Due to the on-chip tank capacitor, the ZMD41201 only needs an external coil.

The chip extracts its clocks from the incoming 13.56 MHz oscillation and the data from the envelope of the oscillation. Data is transmitted by load-modulating the incoming magnetic field.

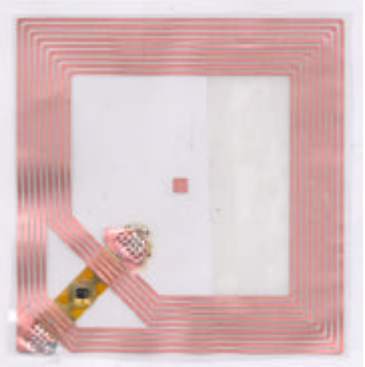
Applications

- Access control and security
- Material logistics and asset management
- Contactless identification devices

Functional Operation

Communication Procedure

1. The tag is powered up by the operating field generated by the reader
2. The tag is ready in idle mode
3. The reader sends a command
4. The tag responds to the command



Wireless tag (actual size)

Modes of Operation

ZMD41201	Downlink	Uplink
Modulation	10% or 100% selectable	ASK or FSK selectable
Data Rate Selections	Long distance: 1.65k bit/s or fast transmission: 36.48k bit/s	Low: 6.65k bit/s or high: 26.6k bit/s*
Any combination is possible	(ISO/IEC 15693 compliant)	

*) High data rate is slightly depending on selected modulation (ASK or FSK).

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