

Features

- Wide range operating voltage
- Batteryless RF transponder
- Data transmission in read-only operation
- Max. of 64-bits customer programmable data
- 16-bits CRC error detection code
- OTP data memory
- Very low operating current ($4\mu\text{A}$ @ $V_{DD}=3\text{V}$)
- 13.56MHz carrier frequency
- Output data baud rate: 4.5kbps (Typ.)
- PWM/ASK modulation
- Built-in voltage limiter

Applications

- Interactive leisure products
- Security system
- Access control
- Anti-counterfeit devices
- Material management
- Animal management
- Personnel working time record
- Car park monitoring system

General Description

The HT6720 is an RF transponder IC with 13.56MHz RF carrier, which provides a low cost batteryless transponder solution when combined with an external inductor. The inductor and internal capacitor form an LC tank which induce voltage from the radiated 13.56MHz carrier signal generated from the reader antenna. HT6720 has a built-in low power RC oscillator which is activated if the induced carrier field strength is high enough to supply the operating current and the response signal (pre-programmed in the OTP memory) is serially transmitted out. The response data is transmitted using PWM/ASK modulation. Modulation of 13.56MHz is accomplished by damping the LC tank with a fixed baud rate.

The transmission information is stored in a 96 bits one time programmable memory OTP, with a 16-bit CRC code (up to 64 bits reserved for customer). The effective detection range for a small sized antenna is 2cm~10cm which is dependent on antenna format & reader design. The larger the antenna loop used the longer the detection range. It is advisable to use larger antenna to attain a 15 cm detection range.

Implementing Holtek's advanced OTP and low power technology, HT6720 offers a very cost effective solution for RF contactless detection system.

A code area of 64-bits (max.) wide is provided so customers can program the device using the specified programmer supplied by Holtek. The pre-programmed ICs are also available upon customer's request.

Block Diagram

