

Security Transponder plus Remote Keyless Entry, HITAG2^{PLUS}

Features

- Compatible with Security Transponder, PCF7936AS.
- Rolling Code Generator for keyless entry
- 14-pin SO package

Transponder

- 64/32 bit mutual authentication
- 32 bit unique device identification number
- Fast authentication, 39ms
- 48 bit Secret Key
- 128 bit user memory (EEPROM)
- EEPROM read/write in cipher mode
- EEPROM read/write protection capability
- Excellent sensitivity in read and write mode

Code Hopping Generator

- Four user buttons (15 + 1 commands)
- LED acknowledgment of transmission
- 42 bit unidirectional code hopping
- 48 bit Remote Secret Key
- 114 bit message with run-in, device identification, function code, terminator and parity bits
- Automatic code synchronisation via transponder
- Programmable data rate and frame repetition rate
- Clock input to support external data rate reference
- Manchester encoding
- Low tolerance on-chip RC oscillator ($< \pm 10\%$)
- Battery low indication
- Single cell operation (2.0V to 3.6V)
- Low power consumption
(ACTIVE: 0.3 mA, POWER DOWN: 300 nA)

General Description

The HITAG2^{PLUS} is a high performance monolithic Security Transponder and Remote Keyless Entry Chip ideally suited for car immobiliser applications that incorporate keyless entry functions.

The HITAG2^{PLUS} transponder circuitry is compatible with the Security Transponder PCF7936AS to support mixed systems using a HITAG2^{PLUS} and a standard Security Transponder, PCF7936AS at the same time.

The Transponder circuitry meets the security and performance requirements of modern car immobiliser applications. Excellent device sensitivity (large distance) and short authentication time ensure easy application and outstanding system performance. The Transponder circuitry does not require any battery supply and full operation is granted in a Keyless Entry battery low condition.

The Remote Control circuitry features a low power consumption to ensure long battery lifetime. The device supports up to four user buttons and a LED for transmission acknowledgment. Code hopping upon each button press is provided. The device features automatic re-synchronisation of the rolling code via the transponder interface.

The Transponder and rolling code algorithm employ the same security algorithm for easy system integration on the receiver side. Separate Secret Keys are provided to ensure independent code characteristics.

Data rate, modulation and repetition rates of the remote transmission frame are configurable by the on-chip EEPROM.

The HITAG2^{PLUS} features a clock input as an external data rate reference for use with common PLL transmitter devices.

Typical Application

