

## Hitag Reader Chip

## HTRC110

**1 FEATURES**

Combines all analogue RFID reader hardware in a single chip

- Optimized for HITAG transponder family
- Robust antenna coil power driver stage with modulator
- High performance adaptive sampling time AM/PM demodulator (patent pending)
- Read and write function
- On-chip clock oscillator
- Antenna rupture and short circuit detection
- Low power consumption
- Very low power stand-by mode
- Low external component count
- Small package (SO14)

**2 GENERAL DESCRIPTION**

The Hitag Reader Chip HTRC110 is intended for use with transponders which are based on the HITAG silicon (HT1ICS30 02x or HT2ICS20 02x). (E.g. the HITAG 2 stick HT2DC20 S20 may be operated with the use of the Reader Chip). In addition the IC supports other 125kHz transponder types using amplitude modulation for the write operation and AM/PM for the read operation. The receiver parameters (gain factors, filter cutoff frequencies) can be optimized to system and transponder requirements. The HTRC110 is designed for easy integration into RF-identification readers. State-of-the-art technology allows almost complete integration of the necessary building blocks. A powerful antenna driver/modulator together with a low-noise adaptive sampling time demodulator, programmable filters/amplifier and digitizer build the complete transceiver unit, required to design high-performance readers. A three-pin microcontroller interface is employed for programming the HTRC110 as well as for the bidirectional communication with the transponders. The three-wire interface can be changed into a two-wire interface by connecting the data input and the data output.

Tolerance dependent zero amplitude modulation caused severe problems in envelope detector systems, resulting in the need of very low tolerance reader antennas. These problems are solved by the new Adaptive Sampling Time technique (AST).

**3 ORDERING INFORMATION**

TYPE NAME	DESCRIPTION	ORDERING NUMBER
HTRC110 01T/02EE	Hitag Reader IC, Tube	9352 600 91112
HTRC110 01T/03EE	Hitag Reader IC, Reel	9352 600 92118