



## TAGREADER IC

### Fully Integrated CMOS Transceiver IC

The TAGREADER base station IC is a fully integrated CMOS transceiver IC minimising the influence on reading/writing distances caused by the given tolerances of the primary resonance circuit.

It is intended for use in an automotive immobilizer RFID base station with the following functions:

- ▶ Antenna driving with carrier frequency by internal PLL, or external clock.
- ▶ Integrated PLL system to achieve self adaptive carrier frequency matched to the antenna resonant frequency.
- ▶ 100% AM modulation (OOK) of the field for writable transponders.
- ▶ AM demodulation of the antenna signal modulation induced by the transponder modulation.
- ▶ Two sampling points for demodulation to avoid the “Zero crossing” effect.
- ▶ Communication with the microcontroller via a 3 wire interface.
- ▶ Only a few external components are needed to ensure a very cost efficient and reliable solution for the ever increasing demands of automotive industry.
- ▶ Frequency range of 100 – 150 KHz perfectly matches the SMARTRAC AUTOMOTIVE transponder portfolio.
- ▶ Self diagnostic features are implemented including optional reading of PLL lock frequency to assist in more reliable transponder communication.

#### Overview

##### Carrier Frequency Range

100 - 150 kHz

##### Sleep Mode Current

1 $\mu$ A *typ.*

##### Integrated PLL System

##### Multiple Transponder Protocol Compatibility

##### Internal and external clock source

##### 2 channel demodulator for Zero crossing effect elimination

##### Driver antenna bridge

250 mA continuous

##### Simultaneous Send / Receive Mode

##### Operating Temperature

-40°C to +85°C

#### Applications

- ▶ Automotive immobilizers
- ▶ Industrial – general purpose AM readers

# TAGREADER IC

Fully Integrated CMOS Transceiver IC

Dimensions	Frequency	Package	Supply voltage	Driver antenna bridge
9.93 × 5.99 × 1.63 mm	100 - 150 kHz	SO16	5 V	250 mA continuous

**Contact: Automotive**

SMARTRAC TECHNOLOGY Wehnradh GmbH · Gewerbebeparkstr. 10 · 51580 Reichshof-Wehnradh · Germany  
Phone +49 2265 9919 0 · Fax +49 2265 9919 11 · [automotive@smartrac-group.com](mailto:automotive@smartrac-group.com)

**Contact: Sales & Customer Service**

[www.smartrac-group.com/contact](http://www.smartrac-group.com/contact)

© 2018 SMARTRAC N.V.

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. [info@smartrac-group.com](mailto:info@smartrac-group.com)