Readers

Advanced Basestation IC

Philips Semiconductors' highly integrated and powerful Advanced Basestation IC (ABIC) is ideally suited for vehicle immobilization applications. This device incorporates all necessary functions to read and write to transponders, and employs a unique AM/PM demodulation technique (AST, Adaptive Sampling Time) that extends the system's operating range.

Optimized to operate with Philips Semiconductors' PCF79xx transponder family, the ABIC can be used in combination with commonly available transponders that employ ASK modulation. ASK modulation and reception characteristics are widely programmable for powerful system adaptation. The ABIC is also ideal for 'intelligent antenna' as well as 'active antenna' applications.

The carrier frequency can be derived from an on-chip oscillator or external clock source, and a wide range of clock frequencies can be applied using the programmable on-chip clock divider circuitry. The device enables system diagnostics via antenna failure detection features. Communication with the device and the transponder is provided via a serial microcontroller interface. Employing CMOS technology, the device features low power operation and supports idle and power down modes.

Product overview

Features	PCF7991AT	PCJ7991AT
Extended system operating range due to powerful AM/PM demodulation techniques	Yes	Yes
Ideally suited for 'intelligent antenna' and 'active antenna' architectures	Yes	Yes
High antenna drive capabilities	CW: 200 mAp	CW: 200 mAp
Low antenna driver output resistance	3.5 Ohm	3.5 Ohm
Excellent receiver sensitivity	2 mVpp	2 mVpp
Programmable clock divider, modulator, receiver gain and filter characteristics	Yes	Yes
Fast 'read after write' receiver settling characteristics	Yes	Yes
On-chip receive EMI filter	Yes	Yes
Antenna failure mode detection	Yes	Yes
Few external components	Yes	Yes
Operating supply voltage	Yes	Yes
Power down mode	7 µA @ 5.5 V	7 µA @ 5.5 V
Package	SO14	SO14
Extended temperature range	–40 to +85 °C	–40 to +105 °C