

DESCRIPTION

The PT4301 is a very low power and highly sensitive single chip OOK/ASK super-heterodyne receiver for the 315MHz and 434MHz frequency bands that offers a high level of integration and requires only a few external components. The PT4301 consists of a low-noise amplifier (LNA), an image-rejection mixer, an on-chip phase-locked loop (PLL) with integrated voltage-controlled oscillator (VCO) and loop filter, a 10.7MHz intermediate frequency (IF) limiting amplifier stage with received-signal-strength indicator (RSSI), and analog baseband data recovery circuitry (data filter, peak detector, and data slicer). The PT4301 also implements a discrete one-step automatic gain control (AGC) that reduces the LNA gain by 20dB when the RF input signal is greater than -47dBm. The PT4301 is available in a 24-pin SSOP package.

FEATURES

- Low current consumption (5mA fully active mode at 315MHz)
- 2.4V to 5.5V supply voltage operation range
- Optimized for 315MHz or 434MHz ISM Band
- On-chip image-rejection function
- High dynamic range with on-chip AGC
- Low power down mode current (<1μA)
- High sensitivity of -114dBm (315MHz, 2Kb/s AM 99% square-wave modulation)
- 24-pin SSOP package

APPLICATIONS

- Remote keyless entry (RKE) systems
- Remote control systems including garage door and gate openers
- Alarm and security systems
- Wireless sensors

BLOCK DIAGRAM

