

AMI Semiconductor

ASTRX1 – Single-Chip Transceiver

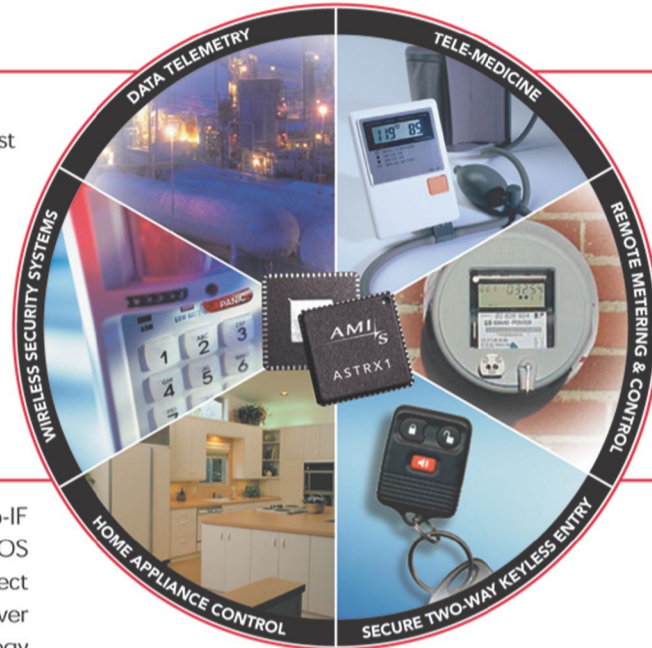


Key Features

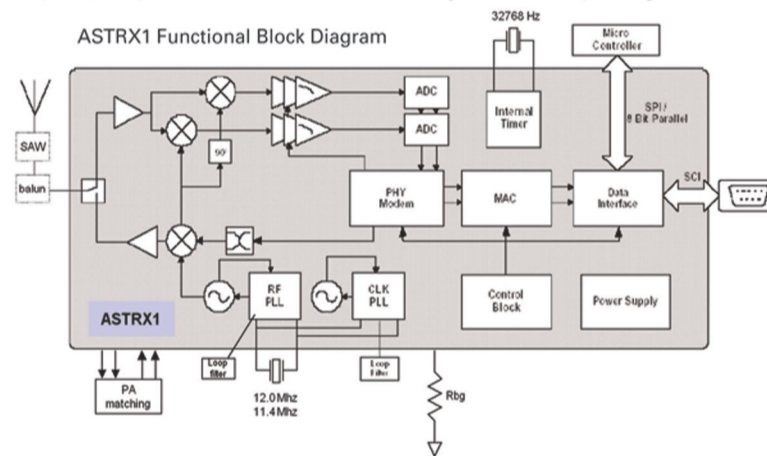
- IEEE 802.15.4 (draft) compliant = Interoperable
- Single-chip CMOS solution = Reduced size and cost
- Direct sequence spread spectrum = Robust communication
- Zero-IF transceiver = Enhanced RF performance
- Low-power architecture = Increased battery life
- Multi-channel transmitter = Adaptable
- Range = 100 meters
- MicroLead™ frame package (9mm x 9mm) = Small form factor

Product Description

AMI Semiconductor's ASTRX1 multi-channel, zero-IF transceiver is a low-cost, low-power, single-chip CMOS solution for wireless, short-range devices. The direct sequence spread spectrum (DSSS) integrated transceiver is based on AMI Semiconductor's ASTRIC™ RF technology platform. ASTRX1 provides reliable, robust data communication in the license-free European (EU) band of 868 MHz to 870 MHz and North American (US) ISM band of 902 MHz to 928 MHz and is compliant with the IEEE 802.15.4 (draft) specification. Easily configured, parameters such as power consumption, acquisition time and carrier



frequency can be optimized for the most demanding of RF applications. The unique ASTRX1 design integrates RF and baseband for an affordable, reduced part count, power efficient transceiver solution. The ASTRX1 functional block diagram demonstrates the high level of system-on-chip integration.



Technical Features

- Spreading = Direct sequence spread spectrum
- Modulation = Binary phase shift keying
- Zero IF architecture = Direct RF conversion
- Burst data rate = 20 kbit/s (EU) and 40 kbit/s (US)
- PN spreading factor = 15 bits
- Frequency bands and channels
 - 868.00MHz to 870.00MHz (one channel)
 - 902.00MHz to 928.00MHz (ten channels)
- Receiver sensitivity = -92 dBm
- Transmitted power = 0 dBm
- Range = 100 m
- Data integrity = 16 bit CRC
- TX current consumption < 25mA @ 3.0V
- RX current consumption < 36mA @ 3.0V
- Sleep mode current consumption < 4µA
- Supply voltage = 3.0 V ± 0.3
- Temperature range = -40°C to +85°C
- Parallel interface = 8-bit multiplexed data/address
- Serial interface = Asynchronous RS-232 at programmable rates
- Packaging = MicroLead frame 64 lead (9mm x 9mm)

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For information, visit www.amis.com, email astrx1@amis.com or phone 208.233.4690 or +49 (0) 811.999.36.50. ASTRX1 is jointly developed by AMI Semiconductor and ADCON RF Technologies.

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