



3D Active Long Range Front-End

General Description

The EM4083 is a CMOS integrated circuit intended for hands-free or multidimensional wireless communication systems at 125kHz.

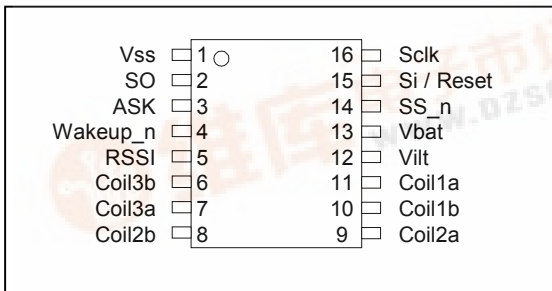
It integrates a high sensitivity low frequency AM receiver together with digital functions accessible through a Serial Standard Interface.

EM4083 provides a wake-up signal to an external microcontroller upon reception of a valid programmable header and then a high-speed data transfer and decoding for long range applications at 125kHz.

Applications

- Keyless entry systems
- Tire pressure systems
- Intelligent sensors
- Intelligent access control

Pinout



Key Features

- 115kHz –140kHz Frequency Bandwidth
- 3 antennas interface for 3D reception
- Ultra low current consumption < 2µA
- High sensitivity (1mV_{pp})
- More than 2.5m distance in typical applications.
- 32x16 bits EEPROM (432 bits user memory).
- On Chip capacitors for antenna tuning
- On Chip resistor for Antenna Quality Factor tuning
- 4 wires Microcontroller Serial interface (SPI).
- 8 bits (EEPROM programmable) Header detection.
- Manchester data decoder (data rate 4Kbd).
- Data transmission performed by 100% amplitude modulation (OOK) in Up-Link.
- 40°C to +85°C Temperature range.
- 3V power supply battery
- TSSOP16 package.

& BENEFITS

- Long and accurate communication range
- Extended battery life of the system
- Accurate Antenna Tuning using the Receive Strength Signal Indicator function
- Minimal use of external components

Typical Application

