



## Read Only Contactless Identification Device with Anticollision

### Features

- Anticollision protocol to identify a number of transponders (better than 20 tags/s at RF/32, 10 tags/s at RF/64)
- 55 bit memory array, laser programmable ROM
- Two mask programmable data rate options: RF/64 and RF/32
- Data transmission reader to transponder: ASK 100% (OOK)
- Data transmission transponder to reader: ASK, Manchester Code
- On chip resonance capacitor
- On chip supply buffer capacitor & voltage limiter
- Large Modulation Depth
- Operating frequency 100 – 150 kHz
- Small chip size convenient for implantation

### Typical Applications

- Logistics
- Manufacturing Automation
- Anti-counterfeiting
- Industrial transponder
- Tracking and tracing

### Description

The EM4025 is a CMOS integrated circuit for use in electronic Read Only RF Transponders, often known as a RFID Tag. The circuit is powered by an external coil placed in an electromagnetic field, and gets its clock via the coil terminals. The fixed code device identification is programmed at manufacture by laser fusing of polysilicon links. The chip starts at power up in a quiet mode. Downlink Transmission occurs only on command from the reader, normally as part of the anticollision/arbitration scheme. A data rate of 64 or 32 periods of the carrier frequency per data bit is available. Downlink Data is Manchester Coded. Only an external coil is needed to obtain the chip function. A parallel resonant capacitor is integrated.

The EM4125 is the same device but with bumped enlarged pads. All specified parameters and description are applicable for the EM4125 device.

### Typical Operating Configuration

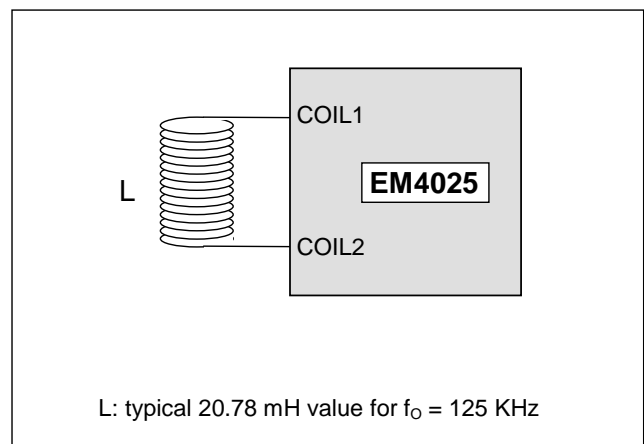


Fig. 1