

128 bit Read Only Low Frequency Contactless Identification Device

Description

EM4200 is a CMOS integrated circuit intended for use in electronic Read Only RF transponders. It is designed to replace seamlessly the EM Microelectronic-Marin Read Only ICs EM4100/4102 and EM4005/4105.

The circuit is powered by an external coil placed in an electromagnetic field and gets its master clock from the same field. By turning on and off the modulation current, the chip sends back the unique code contained in a factory pre-programmed laser ROM.

The 128 bit unique code is stored in laser programmed ROM. Several options are available to use 64, 96 or 128 bits of ROM.

The IC offers also different resonant capacitor versions, selectable by mask option (0pF, 75pF and 250pF) providing the same reading performances to ensure seamless replacement.

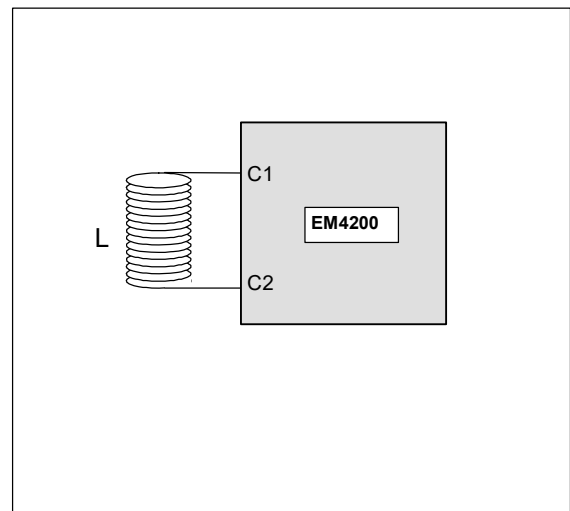
Typical Applications

- Animal Identification according to ISO11785 (FDX-B)
- Waste management standard (BDE)
- Access Control
- Logistics automation
- Anti-counterfeiting
- Industrial transponder

Features

- Full compatible with EM4100/4102 and EM4005/4105 communication protocols.
- 128 bit laser programmed ROM (64 and 96 bit option available)
- Several options of data rate and data encoding:
 - Manchester 32 and 64 RF clocks per bit
 - Biphase 32 and 64 RF clocks per bit
 - PSK 16 RF clocks per bit (subcarrier RF/2)
 - FSK2 50RF clocks per bit
- Several resonant capacitor integrated on chip (0pF, 75pF or 250pF mask option)
- 100 to 150 kHz frequency range
- On-chip rectifier and voltage limiter
- No external supply buffer capacitor needed
- 40°C to +85°C temperature range
- Very low power consumption and High performances

Typical Configuration



Ordering Information

The versions below are considered standards and should be readily available. For other versions or other delivery form, please contact EM Microelectronic-Marin S.A.

Part Number	IC Data Encoding	Data Length	IC Cres	Package	Delivery Form
EM4200A6WS7-001	Manchester – 64RF	64 bits	250pF	Sawn wafer	Wafer on frame
EM4200A6WB11E-051	Manchester – 64RF	64 bits	250pF	Die	Blister Tape
EM4200C4WS7-002	PSK – 16RF	64 bits	250pF	Sawn wafer	Wafer on frame
EM4200EXWS7-003	FSK2 – 50RF	96 bits	250pF	Sawn wafer	Wafer on frame
EM4200B5WS7-006	Biphase – 32RF	128 bits	250pF	Sawn wafer	Wafer on frame
EM4200C4WS7-008	PSK – 16RF	64 bits	75pF	Sawn wafer	Wafer on frame
EM4200XXYY-%%%	Custom	Custom	Custom	Custom	Custom