PragmatIC®

Flexible integrated circuits to inspire innovators

Create **more**

PR1101/02
ConnectIC® for closed RFID solutions

The new ConnectIC family of flexible integrated circuits (FlexICs) are the key to achieving the price point required to add intelligence to everyday objects.

The PR1100 series of FlexICs are designed for HF RFID proximity identification applications in which one or more custom readers are incorporated into the solution. The PR1101 enables rapid identification of object series (e.g. SKUs), while the PR1102 supports unique item-level identification.

Key features

- Ultra-low cost
- Thin, flexible and robust
- Fast read times
- Customisable data format
- 13.56MHz operating frequency
- Integrated energy harvesting
- Easy to integrate

Key benefits

- Ideal for integration into mass market items
- Suitable for paper or plastic inlays
- Imperceptible within labels or packaging
- No impact on packaging/labelling line speed
- No battery required to power FlexIC
- Simple readers to minimise total system cost

Target applications

- Supply chain traceability
- Hierarchical identification
- Authentication
- Provenance
- Monitoring grey market diversion
- Smart shelf
- Smart checkout

Target markets

- Personal and home care
- Wine, beer and spirits
- Food and beverage
- Tobacco
- Pharmaceuticals
- Automotive consumables
- Home appliance consumables
- Healthcare

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ConnectIC family

ConnectICs are designed on PragmatIC's unique technology platform which delivers ultra-low cost flexible integrated circuits (FlexICs) that are thinner than a human hair and can be easily embedded into everyday objects.

ConnectICs are designed to be used with single layer antennas, which dramatically reduces total inlay costs. Their flexible structure and robust construction allow them to withstand the rigours of consumer goods packaging and use. Large bond pad sizes allow for more relaxed placement and bonding tolerances.

ConnectICs are compatible with both conventional pick-and-place machines and higher throughput parallel assembly. Fast read times ensures verification of the inlay can be performed at standard production line speeds and no customer encoding is required.

FlexLogIC® manufacturing

FlexLogIC is PragmatIC's unique fab-in-a-box model for low capital, high capacity manufacturing of FlexICs. The fully automated, self-contained system has production cycle times of under a day, which coupled with the low design costs, means that new FlexICs can be developed, tested and rolled out in short timescales and with dramatically reduced risk.

About PragmatIC

PragmatIC is reinventing how electronics is designed and manufactured, aligned to the mass market volumes and low cost requirements of embedding electronics in everyday objects.

PragmatIC is headquartered in Cambridge UK, with a new billion unit production facility based in North-East England.

	PR1101	PR1102
Operating mode	TTO (Tag Talks Only)	TTO (Tag Talks Only)
Operating frequency	13.56 MHz	13.56 MHz
Typical data transfer rate	50 kbps	50 kbps
Communication protocol	Proprietary	Proprietary
Reader compatibility	Custom low-cost	Custom low-cost
Max time to transmit code	5 ms	5 ms
Total memory	16 bit LPROM	64 bit LPROM
Data/ID memory	12 bits (4,096 IDs)	48 bits (>200 trillion IDs)
Type	Passive	Passive
Bond pads	2	2
Thickness	~ 10 µm	~ 10 µm
Compatible antenna	HF coil with or without crossover	HF coil with or without crossover

Learn more about PragmatIC

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