New Retail HF Chip

Shanghai Quanray Electronics CO.,LTD

Connecting Anything Secure

QMars-5U

Overview:

Compatible to ISO/IEC 15693 protocol, QMars-5U is a highly optimized HF RFID chip for retail, unmanned retail, consumer product security, library labeling, industrial applications, etc.

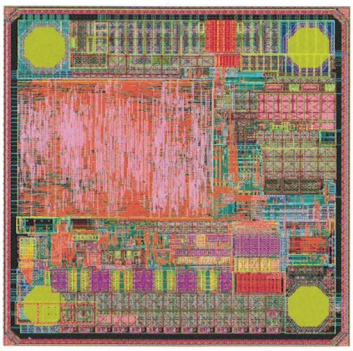
The user memory is 256 bits. The minimum read field strength is less than 0.06 A/m and the minimum write field strength is less than 0.08 A/m.

Key Features

- Compatible to ISO/IEC 15693
- Contactless data transmission and energy supply (no battery is needed)
- Operating frequency: 13.56MHz
- Operating distance: Up to 1.7m (depending on inlay antenna and reader)
- 256 bits user read/write memory, organized in 4 blocks of 4 bytes each.
- Min reading sensitivity: ≤ 0.06A/m (standard ID-1 antenna size)
- Min writing sensitivity: ≤ 0.08A/m (standard ID-1 antenna size)
- Input Capacitance：23.5pF
- Fast data rate: 53kbit/s
- Anti-collision, 8 bytes serial number UID
- High data integrity: 16-bit CRC, framing
- Password protected Electronic Article Surveillance (EAS)
- Password protected Application Family Identifier (AFI)
- Data Storage Format Identifier (DSFID)
- Lock mechanism for each user memory block (write protection)
- Lock mechanism for DSFID, AFI, EAS
- Data retention of 30 years minimum
- Operating temperature: -40~85℃
- Storage temperature: -55~125℃
- Write/Erase endurance: 100,000 cycles minimum

Key Applications

- Retail
- Unmanned Retail
- Anti-counterfeit
- Traceability of Consumer Goods
- Library
- Industrial application



Chip

Operation Conditions & Electrical Characteristics

Parameter	Describtion	Min	Typ	Max	Units
Operating Temperature		-40		85	°C
Operating Frequency		13.55	13.56	13.57	MHz
Minimum Reading sensitivity	Standard ID-1 antenna size			0.06	A/m
Minimum Writing sensitivity	Standard ID-1 antenna size			0.08	A/m
Operating Distance	Depending on inlay antenna and reader			1.7	m
Data Rate			53		kbits/s
Input Capacitance1		22.3	23.5	24.7	pF
Data Retention		30			years
Programming Cycles		100,000			cycles

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