SIC278

FDX-A/-B, FSK FECAVA, ISO11784/85 High Performance R/W RFID Transponder

REV 1.2

Features Summary

Highlight Features

- High performance read range by SIC's boost-up technique, +7%-10% over Hitag-S
- (Qcoil ≈ 50 longer with higher Qcoil)
- Frequency range 100 - 150kHz
- Integrated resonant capacitor of 210pF
- Air tunable resonant capacitor for maximum read range
- Hitag-S Command Compatible (no authentication)
- Extremely low power consumption in read mode
- Two Level of password authorization (Read and Read/Write

Memory

- Factory programmed 7-byte UID
- 1408 bits (44 x 32) EEPROM
- 1184 bits (37 x 32) in user memory area
- More than 100,000 erase/write cycles
- 20 years non-volatile data retention
- Secure memory lock functionality
- 32 bits Unique Identification Number (UID)
- 64 bits Traceability data

Supported Standard

- FDX-A, FSK FECAVA
- FDX-B, ISO 11784/85 Animal ID
- 64-bit EM format, data rate 2 kbit/s

Protocols

- Downlink, 100% ASK, 5.2 kbps pulse interval coding
- Uplink, Deep ASK modulation with Anti---collision Manchester, DBP, and FSK (Fecava) coding
- Selectable uplink data rate 2, 4, 8 kbps (RF/64, RF/32, RF/16 respectively)
- Hitag-S Compatible Anti-collision (up to 30 tags/s)
- CRC for Data integrity check
- Tag-talk-first mode (TTF) with configurable max block up to 256 bits

Operating Conditions

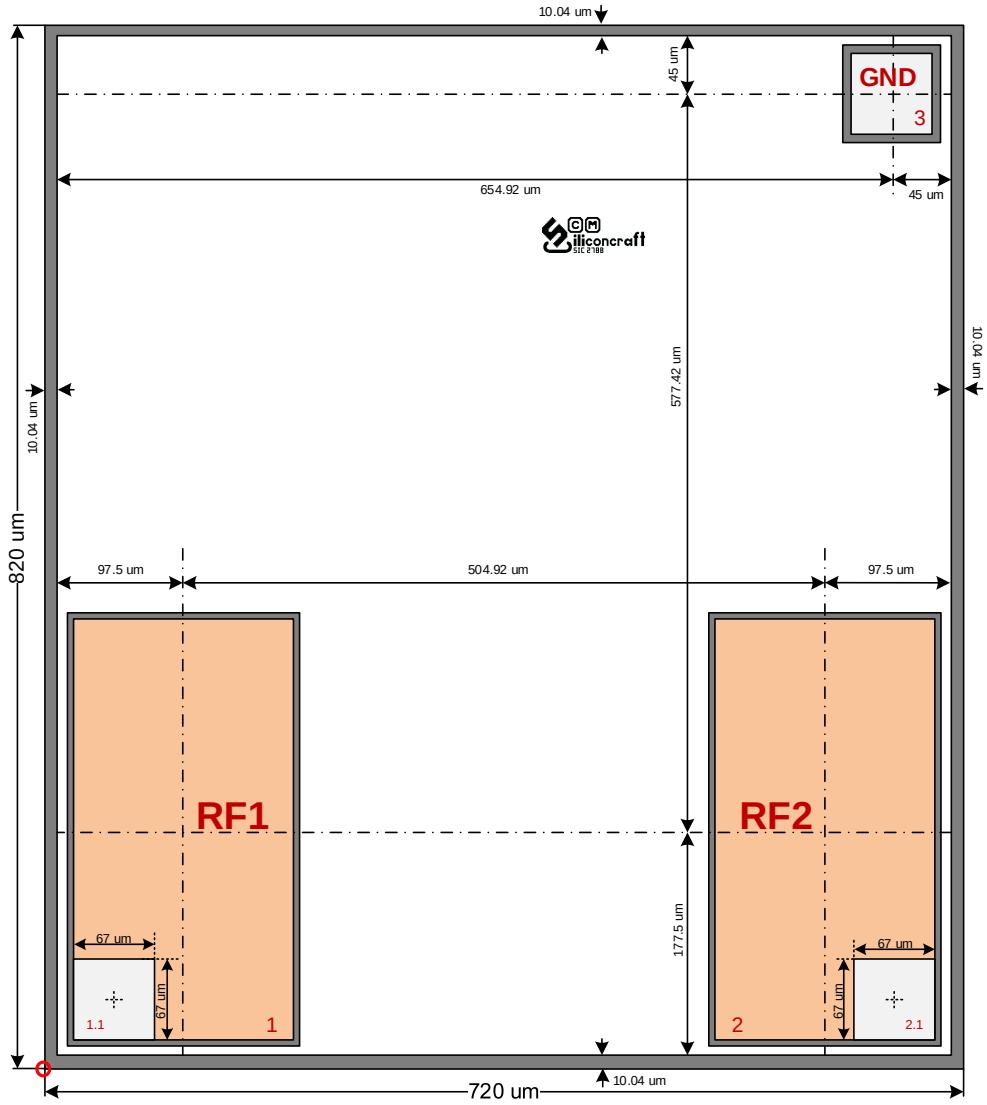
- Operating temperature -40 to 85C
- Available in Dice on Wafer forms, FDFN1 and FDFN2

Applications

- Livestock Management/ Breeding control
- Animal Identification
- Automation in industry/ Item tracking
- Logistic Management
- Access control/ Vending machine
- Sports/ Entertainment

Package Information

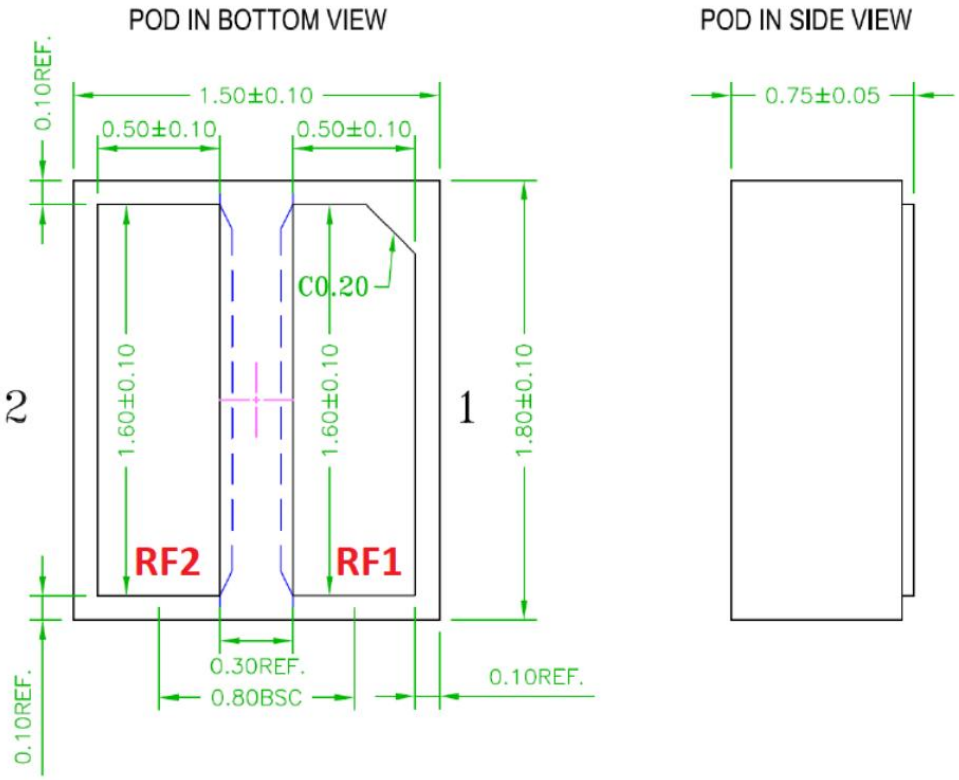
Die Information



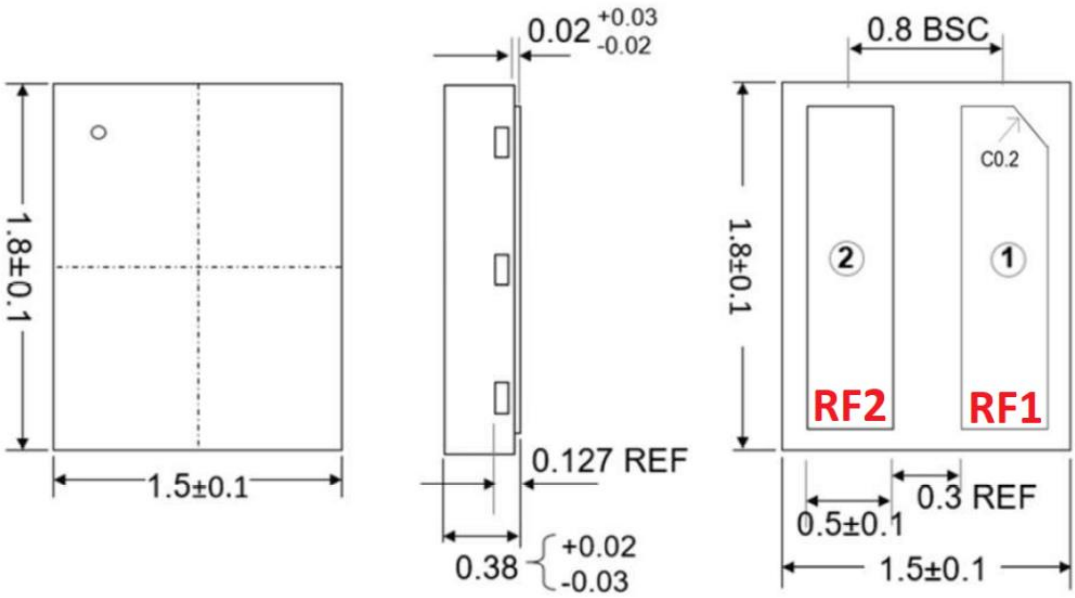
PAD Num.	Center of Pad Co-Ordinate(um)	Description	PADSize (um)
1.	(107.540 , 187.540)	RF1(Mega Pad)	172X332
1.1	(55.04 , 55.04)	RF1	67X67
2.	(612.460 , 187.540)	RF2(Mega Pad)	172X332
2.1	(664.96 , 55.04)	RF2	67X67
3.	(664.960 , 764.960)	GND	67X67

*Although pads of RF1 and RF2 have very large opening, it is recommending for wire-bonding process to connect at the bottom-left corner and bottom-right corner of RF2 and RF2 pad respectively.

FDFN1 Information



FDFN2 Information



Ordering Information

Part No.	Description	Package	Marking	Part No.
P002LS278DOWT	SIC278, Die On Wafer, Tested, Dice, RW Memory 1 kBit, IC	DOW	N/A	Active
P002LS278DOWT-INK	SIC278, Die On Wafer, Without Bump, Tested, Dice, RW Memory 1 kBit, IC	DOW	N/A	Active
P002LS278WFDFN-03	SIC278, FDFN1 Package, FDX , LF Mode, RW Memory 1 kBit, IC	FDFN1	278B	Active
P002LS278WFDFN2-01	SIC278, FDFN2 Package, FDX , LF Mode, RW Memory 1 kBit, IC	FDFN2	278B	Active