

NFC/RFID Chip & Module

RFID & Mobile SoC for Ubiquitous Technology

RFID Reader Chip / Module RFID Chip

TRH031M-S 13.56MHz RFID Reader Chip

SPECIFICATION

Frequency	13.56MHz
Protocol	ISO/IEC 14443 A/B, 15693, Tag-it Protocol
Modulation	ASK 5~35% & ASK 100%
Operating Range	Up to 10cm
Supply Voltage	2.9V ~ 3.6V
Package Size	7.0 mm X 7.0 mm
Package	LQFP(32pin)



TRH033M-S 13.56MHz Super-Plus RFID Reader Chip

SPECIFICATION

Frequency	13.56MHz
Protocol	ISO/IEC 14443 A/B, 15693, Tag-it, I-CODE Felica, Jewel Protocols
Modulation	ASK 5~35% & ASK 100%
Operating Range	Up to 10cm
Supply Voltage	2.9V ~ 3.6V
Package Size	7.0 mm X 7.0 mm
Package	LQFP(32pin)



TRH034M 13.56MHz RFID Reader Chip with 8051 MCU Core and 16channel capacitive touch sensor I/O

SPECIFICATION

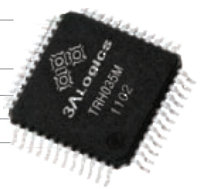
Frequency	13.56MHz
Protocol	ISO/IEC 14443 A/B, 15693 Standards I-CODE, Tag-It, Felica, Jewel Protocols
Modulation	ASK 8 ~ 100%
Operating Range	Up to 10cm depending on tag type
Supply Voltage	1.62 ~ 3.6V
Package Size	RFID RX offset calibration
Package	EEPROM 32Kbyte / SRAM 256x8 bit
MCU	Internal 8051 MCU
LDO	1.8V output
Package Type	48PIN TQFP (7.0mmX7.0mm)



TRH035M 13.56MHz RFID Reader chip with 8051 MCU Core and 16Channel capacitive touch sensor I/O

SPECIFICATION

Frequency	13.56MHz
Protocol	ISO/IEC 14443 A/B, 15693 Standards I-CODE, Tag-It, Felica, Jewel Protocols
Modulation	ASK 8 ~ 100%
Operating Range	Up to 10cm depending on tag type
Supply Voltage	1.62 ~ 3.6V
Calibration	RFID RX offset calibration Touch channel auto calibration
Memory	EEPROM 32Kbyte / SRAM 256x8 bit
Touch Channel	Internal 8051 MCU
Touch Method	Delay Reference Mask capacitive Sensing
MCU	Internal 8051 MCU
LDO	1.8V output
Package type	48PIN QFN (6.0mmX6.0mm)



TRH041M 13.56MHz NFC Controller Chip

SPECIFICATION

Frequency	13.56MHz
Protocol	ISO/IEC 14443 A/B, ISO/IEC 15693 Standards ISO/IEC 18092 (Peer to Peer, R/W, Card emulation)
Supply Voltage	1.8 ~ 3.3V TX Power 1.8V analog and logic power
CPU	8051 MCU
Memory	4 Kbytes RAM 64 Kbytes EEPROM
Communication interface	Serial interface / 12C / SPI SWP
Battery-off mode	Yes
Integrated LDO	Yes
Package	52pin MLF (8mm x 8mm)



Touch Sensor IC / TAG Chip

TSC160L 16 Channel Capacitive Touch Sensor IC

SPECIFICATION

Supply Voltage	1.62 ~ 3.6V
Calibration	Touch channel auto calibration
Touch Channel	16Ch.
Touch method	Delay Reference Mask capacitive Sensing
LDO	1.8V output
Peri. Block	Internal POR, OSC (32kHz, 8MHz)
Package Type	32pin QFN (5.0mm X5.0mm)



TSM160E 16channel capacitive Touch Sensor IC with 8051 MCU core

SPECIFICATION

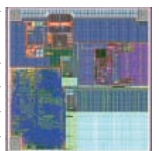
Supply Voltage	1.62 ~ 3.6V
Calibration	Touch channel auto calibration
Memory	EEPROM 32Kbyte SRAM 256X8 bit
Touch Channel	16Ch.
Touch method	Delay Reference Mask Sensing
MCU	Internal 8051 MCU
LDO	1.8V output
Peri. Block	Internal POR, OSC (32kHz, 8MHz)
Package Type	48pin TQFP (7.0mm X 7.0mm)



TTH031MO 13.56MHz Multi-Protocol TAG Chip

SPECIFICATION

Frequency	13.56MHz
Protocol	ISO/IEC 15693 ISO/IEC 14443 A-a part of function
Modulation(Reader to tag)	10 ~ 100% ASK
Memory	Type Logics OTP(Emulated MTP) Size 32 Kbits Data Retention 10 years Organization 32 x 30 blocks (1block / 4byte)
Baud rate	Up to 26.5kbps
Security	Write protection: User Block Lock, AFI & DSFID Lock

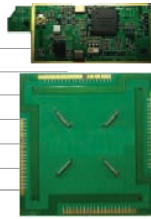


RFID Reader Module

JRM-U100 EPC C1G2 UHF Reader Module

SPECIFICATION

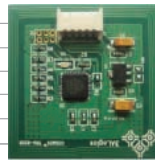
Frequency	840 ~ 960MHz
Protocol	ISO/IEC 18000-6C(EPC global Class1 Gen2) 36 X 18 X 3.2 (mm) – Module
Size	40 X 40 X 6.5 (mm) – Antenna (**Antenna TRA-U100)
DC Power	3.7V
TX Power	Max. 27dBm
Interface	RS232
Current in Active mode	600mA
Operating Range	Up to 50cm
Operating temperature	-20 ~ 65°C



JRM-200 13.56MHz Multi-Protocol Reader module

SPECIFICATION

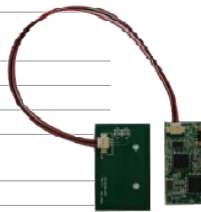
Frequency	13.56MHz
Protocol	ISO/IEC 14443 A,B ISO/IEC 15693, Felica
Size	30 X 30 X 6.5 (mm)
DC Power	5V
TX Driver Power	Max. 80mA
Antenna	HF Loop antenna, 28 X 28 (mm)
Interface	RS232
Operating Range	Up to 50cm
Operating temperature	-20 ~ 65°C



JRM-300 13.56MHz Multi-Protocol Reader module

SPECIFICATION

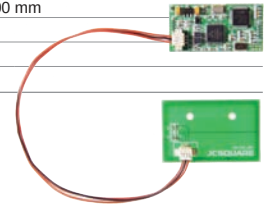
Frequency	13.56MHz
Protocol	ISO/IEC 14443 A,B ISO/IEC 15693, Felica
Size	39 X 20 (mm)
DC Power	5V
TX driver Power	Max. 80mA
Antenna	HF Loop antenna, 42 X 27 (mm) Antenna cable 200 mm
Interface	RS232
Operating Range	Up to 50cm
Operating temperature	-20 ~ 65°C



JRM-500 13.56MHz Multi-Protocol Reader module

SPECIFICATION

Frequency	13.56MHz
Protocol	ISO/IEC 14443 A/B, ISO/IEC 15693 Standards I-CODE, Tag-It, Felica, Jewel Protocols
Size	39 X 20 (mm)
DC Power	5V
TX driver Power	Max. 80mA
Antenna	HF Loop antenna, 42 X 27 (mm) Antenna cable 200 mm
Interface	RS232
Operating Range	Up to 70cm
Operating temperature	-20 ~ 65°C



JRM-700 13.56MHz Multi-Protocol Reader module

SPECIFICATION

Frequency	13.56MHz
Protocol	ISO/IEC 14443 A/B, ISO/IEC 15693 Standards I-CODE, Tag-It, Felica, Jewel Protocols
Size	39 X 20 (mm)
DC Power	5V
TX driver Power	Max. 80mA
Antenna	HF Loop antenna, 42 X 27 (mm) Antenna cable 200 mm
Interface	RS232
Operating Range	Up to 70cm
Operating temperature	-20 ~ 65°C



RFID Evaluation / Study Kit

RSK-100 13.56MHz Multi-Protocol Reader Kit TRH031M-S Evaluation Kit

SPECIFICATION

Frequency	13.56MHz
Protocol	ISO/IEC 14443 A/B, 15693, Tag-it Standards
Reader Size	110 X 74mm (L x W)
Antenna Size	80 X 53mm(L x W)
DC Power	5V (DC jack)
Interface	RS232
Operating Range	Up to 10cm depending on tag type



RSK-300 13.56MHz Multi-Protocol Reader Kit TRH033M-S Evaluation Kit

SPECIFICATION

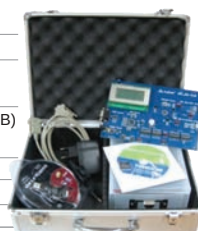
Frequency	13.56MHz
Protocol	ISO/IEC 14443 A/B, 15693 Standards I-CODE, Tag-It, Felica, Jewel Protocols
Reader Size	110 X 74mm (L x W)
Antenna Size	80 X 53mm(L x W)
Balun module Size	20 X 20mm(L x W)
DC Power	5V (DC jack)
Interface	RS232
Operating Range	Up to 10cm depending on tag type



RSK-300 Plus 13.56MHz Multi-Protocol Reader and Antenna Development Kit

SPECIFICATION

Frequency	13.56MHz
Protocol	ISO/IEC 14443 A/B, 15693 Standards I-CODE, Tag-It, Felica, Jewel Protocols
Reader Size	110 X 74mm(L x W)
LCD module Size	60 X 87 X 9.7mm(L x W x H) 16 X 4 Character LCD module
Provide Antenna	Directly matching antenna 8type(Hard, Flexible PCB) SMA connector type antenna 4type(Hard PCB)
DC Power	5V (DC jack)
Interface	RS232
Operating Range	Up to 10cm depending on tag type



RSK-400L 13.56MHz RFID Long range Reader Kit

SPECIFICATION

Frequency	13.56MHz
Protocol	ISO/IEC 15693 Standards (NXP SL2 ICS20, I-CODE)
Size	220 x 125 x 80mm - Housed
Baud Rate	1.6/26.5Kbps
Anti-collision	Available
DC Power	24V DC adapter
TX Power	Max. 3W
Antenna	TRA-400L, 50ohm External antenna RF Coaxial Cable type, 350 x 420 x 45mm
Interface	RS232
Operating Range	Up to 10cm depending on tag type

