REYAX
TECHNOLOGY CORPORATION, LTD

Represented by:

first FC components
**FIRST Components s.r.l.**
www.first-components.com
technical@first-components.com
+39 0332 1888005

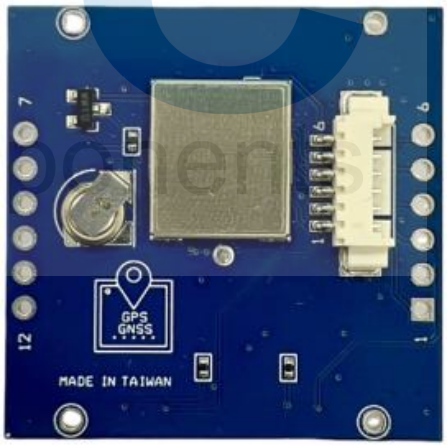
1-NOV-2023 56312E30

# RYS352A

## +3.3V UART interface GNSS antenna module

**Datasheet**



# PRODUCT DESCRIPTION

The RYS352A +3.3V GNSS antenna module is a multi-GNSS module with high sensitivity and performance, It supports GPS, GLONASS, Galileo, BeiDou and QZSS systems. It also supports SBAS, WAAS, EGNOS, MSAS and GAGAN and AGNSS functions.

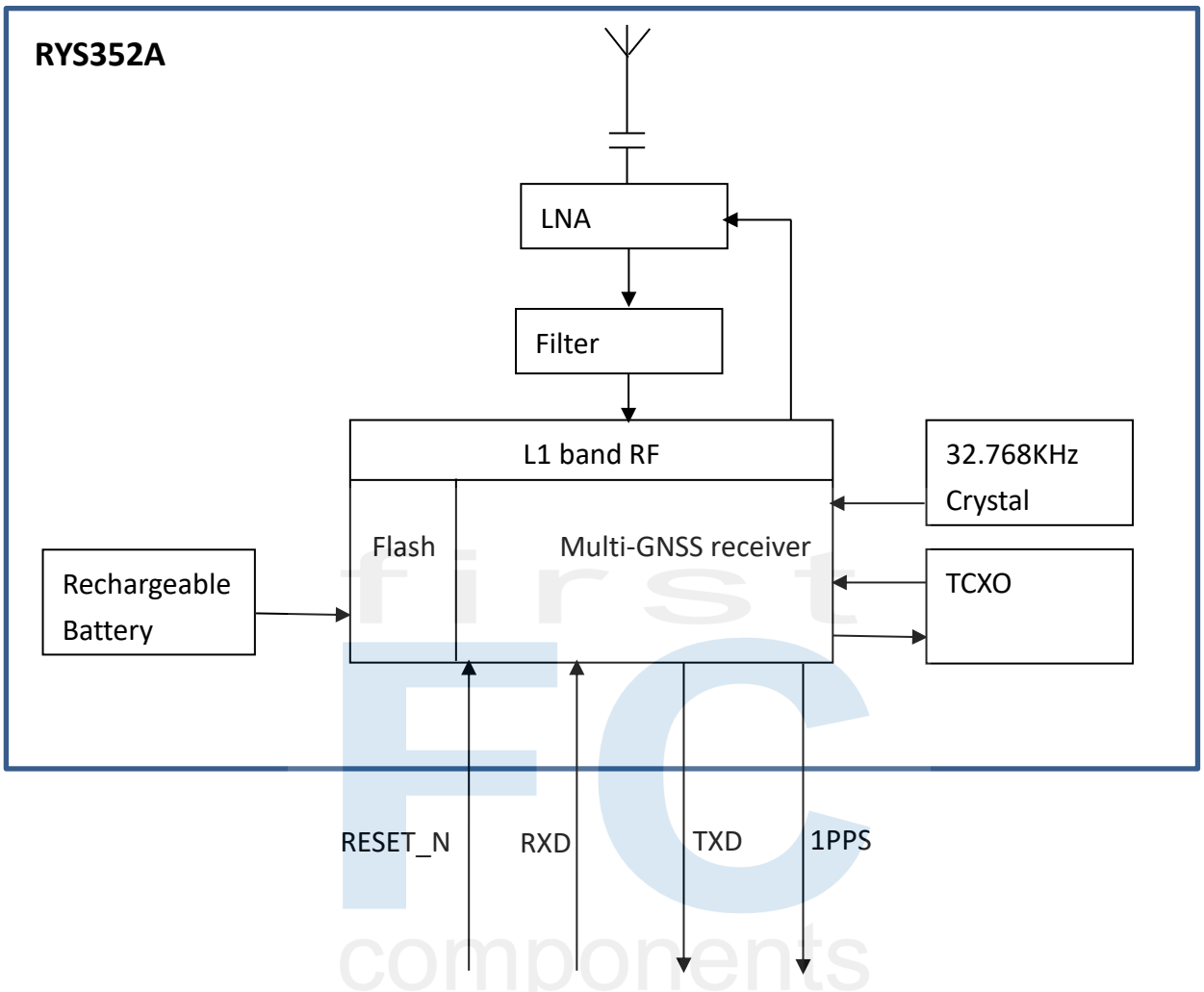
# FEATURES

- Multi-GNSS GPS/GLONASS/Galileo/BeiDou module.
- 72 Receiver channel number.
- Support for multi-GNSS including QZSS and SBAS ranging.
- Integrated 12 multi-tone active interference cancellers.
- Indoor and outdoor path detection and compensation.
- Including enhanced SAW filter, LNA and TCXO.
- Embedded GPS/Glonass/BeiDou Antenna
- RTC battery backup
- Max. 10Hz Navigation update rate
- PPS & TXD LED Indicator

First FC components


Copyright © 2023, REYAX TECHNOLOGY CO., LTD.

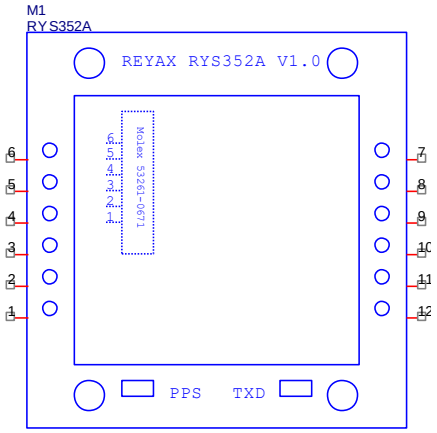
# BLOCK DIAGRAM




first components


Copyright © 2023, REYAX TECHNOLOGY CO., LTD.

# PIN DESCRIPTION




**Molex 53261-0671**

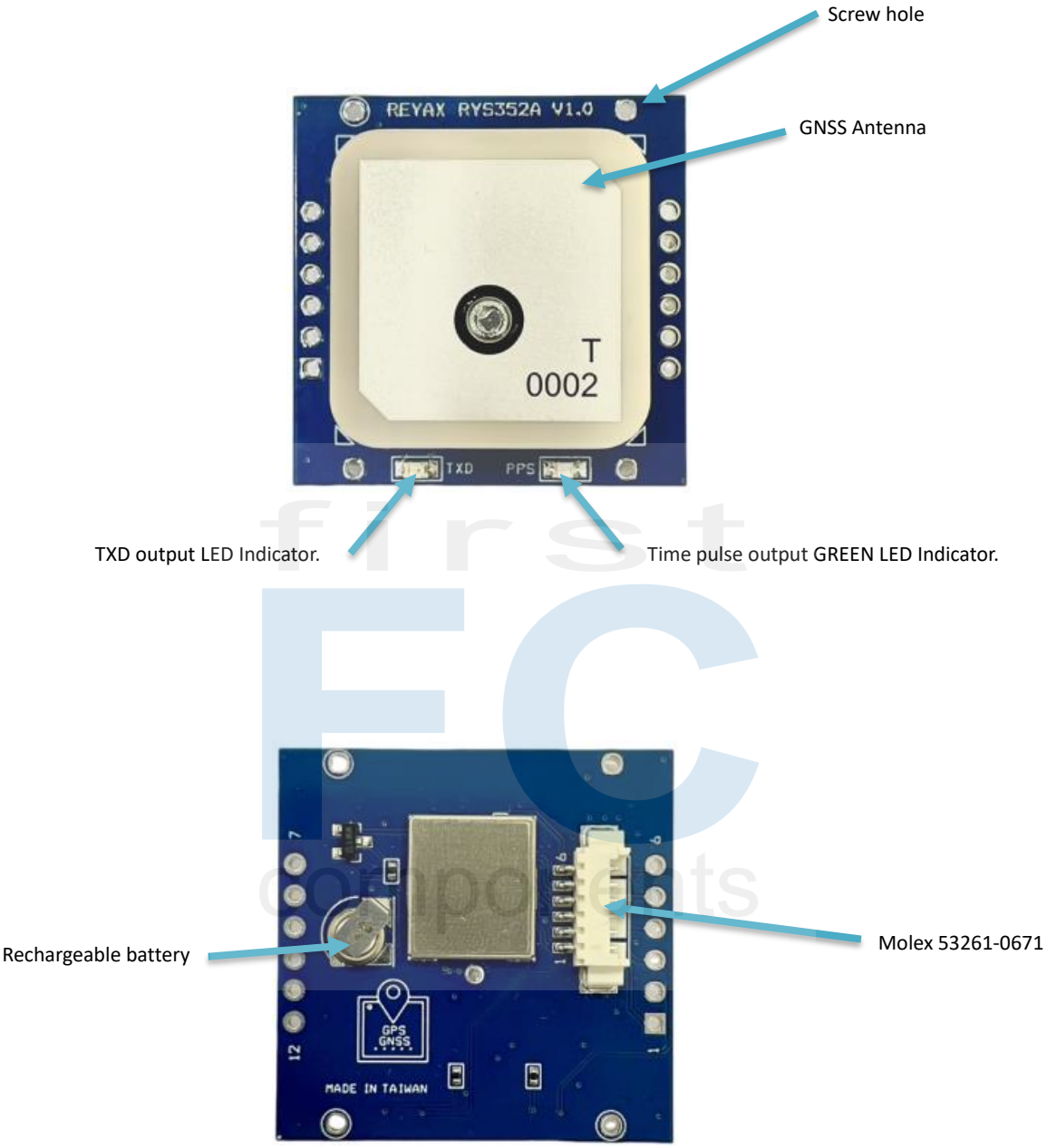
| Pin | Name | I/O | Condition |
|---|---|---|---|
| 1 | 1PPS | O | Time pulse output. |
| 2 | GND | - | Ground |
| 3 | TXD | O | Serial interface Output. |
| 4 | RXD | I | Serial interface Input. |
| 5 | VCC | I | Power Supply and I/O Voltage. (+2.5~3.63V) |
| 6 | RESET_N | I | Pull down at least 100ms to reset the module. |

**Pin**

| Pin | Name | I/O | Condition |
|---|---|---|---|
| 1 | 1PPS | O | Time pulse output. |
| 2 | GND | - | Ground |
| 3 | TXD | O | Serial interface Output. |
| 4 | RXD | I | Serial interface Input. |
| 5 | VCC | I | Power Supply and I/O Voltage. |
| 6 | RESET_N | I | Pull down at least 100ms to reset the module. |
| 7 | GND | - | Ground |
| 8 | GND | - | Ground |
| 9 | GND | - | Ground |
| 10 | GND | - | Ground |
| 11 | GND | - | Ground |
| 12 | GND | - | Ground |

FIRST Components Srl
Copyright © 2023, REYAX TECHNOLOGY CO., LTD.

# PART FUNCTION




first components


Copyright © 2023, REYAX TECHNOLOGY CO., LTD.

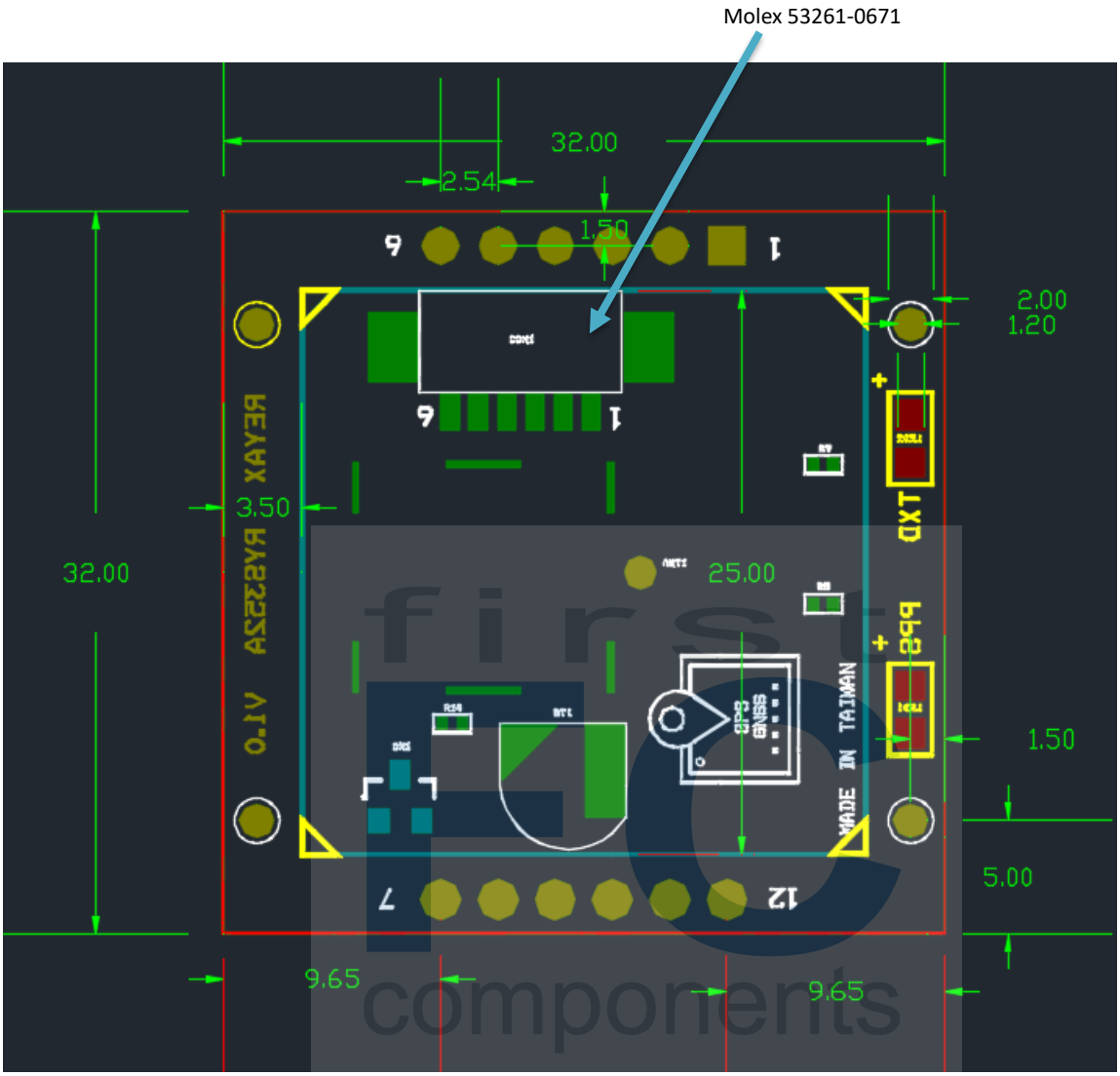
# SPECIFICATION

| Item | Min. | Typical | Max. | Unit | Condition |
|---|---|---|---|---|---|
| Power Supply Voltage | 2.5 | 3.3 | 3.63 | V | VCC |
| | | | | | |
| Satellite acquisition Current | | 33 | | mA | |
| Satellite tracking Current | | 33 | | mA | |
| RTC backup Current | | 12 | | uA | |
| Default Baud Rate | | 115200 | | bps | 8,N,1 |
| Digital input level high | 2 | | VCC+0.3 | V | VIH |
| Digital input level low | -0.3 | | 0.8 | V | VIL |
| Digital output level high | 2.4 | | VCC | V | VOH |
| Digital output level low | | | 0.4 | V | VOL |
| GNSS Center Frequency | | 1561.098<br>1575.42<br>1602.5625 | | MHz | BeiDou<br>GPS、Galileo<br>Glonass |
| Accuracy of 1PPS Signal | | 100 | | ns | |
| Navigation update rate | | 1 | 10 | Hz | |
| Accuracy | | 1.5 | | M | CEP 50%, 24 hours static, more than 6 satellites, Signal strength is -130dBm |
| Cold starts without AGNSS | | 26 | | Sec. | Signal strength is -130dBm |
| Warm starts without AGNSS | | 20 | | Sec. | Signal strength is -130dBm |
| Hot starts without AGNSS | | 1 | | Sec. | Signal strength is -130dBm |
| Cold starts with EASY® | | 12 | | Sec. | Signal strength is -130dBm |
| Warm starts with EASY® | | 2 | | Sec. | Signal strength is -130dBm |
| Hot starts with EASY® | | 1 | | Sec. | Signal strength is -130dBm |
| Cold starts with Flash EPO® | | 5 | | Sec. | Signal strength is -130dBm |
| Tracking Sensitivity | | -167 | | dBm | |
| Hot starts Sensitivity | | -160 | | dBm | |
| Cold starts Sensitivity | | -148 | | dBm | |
| Velocity | | 0.2 | | m/s | |
| Altitude | | 10000 | | M | |
| Acceleration | | 4 | | G | |
| Operating Temperature | -40 | 25 | +85 | ˚C | |
| Battery Capacity | | 1 | | mAHr | |
| Weight | | 13.6 | | gram | |

first components


Copyright © 2023, REYAX TECHNOLOGY CO., LTD.

# DIMENSIONS (BOTTOM VIEW)




Height : GNSS Antenna 4mm + PCB 1.6mm + Molex 53261-0671 3.4mm = 9mm

Unit : mm

first FC components

E-mail : sales@first-components.com
Website : https://first-components.com


Copyright © 2023, REYAX TECHNOLOGY CO., LTD.