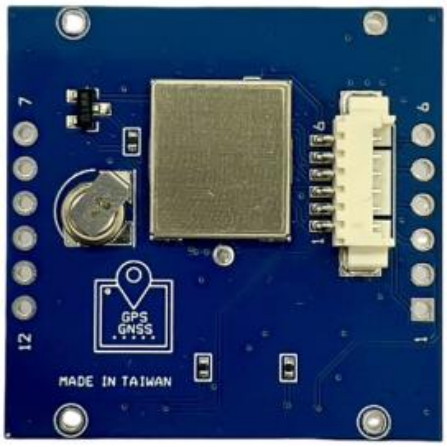
REYAX
TECHNOLOGY CORPORATION, LTD

1-NOV-2023 56312E30

RYS352A

+3.3V UART interface GNSS antenna module

Datasheet



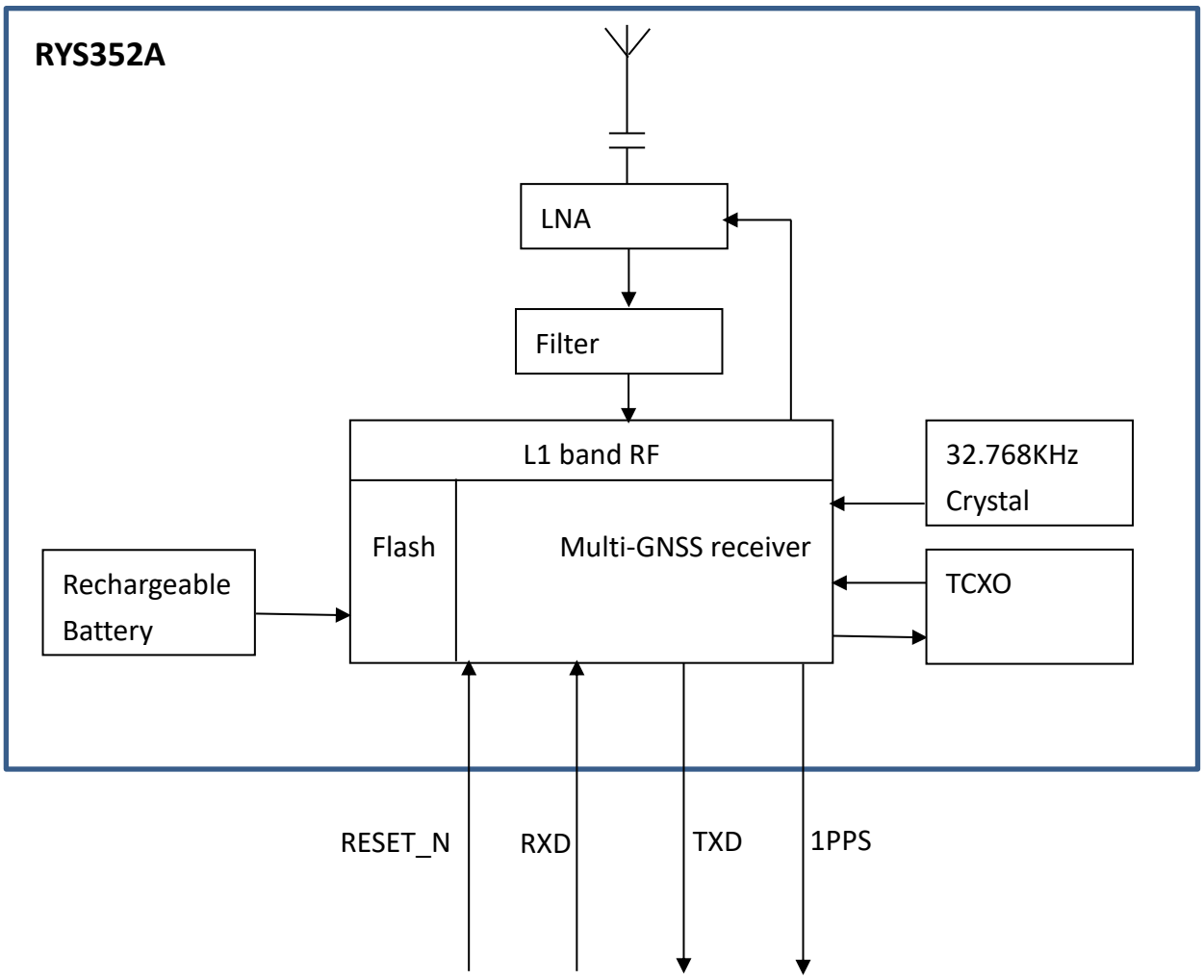
PRODUCT DESCRIPTION

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.

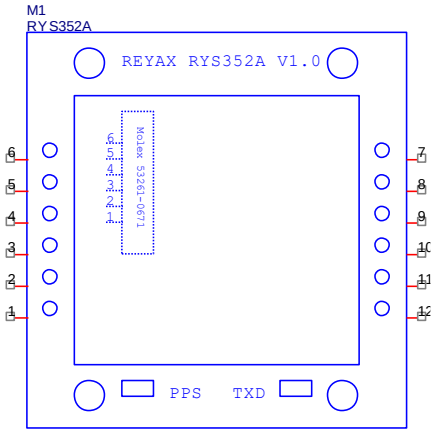
FEATURES

- Multi-GNSS GPS/GLONASS/Galileo/BeiDou module.
- Protocol NMEA 0183 V4.10.
- 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

BLOCK DIAGRAM



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.

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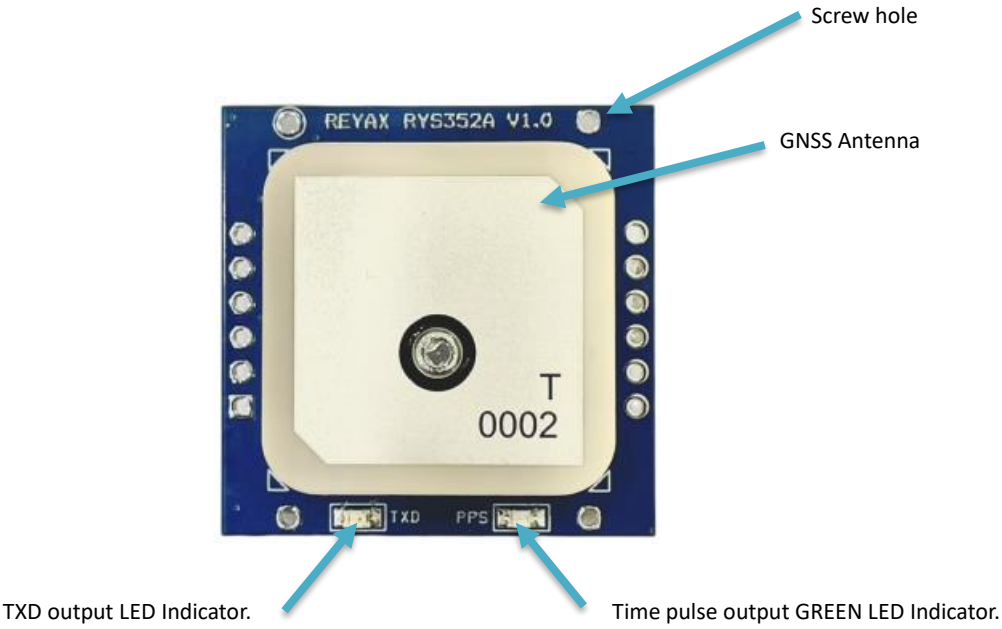
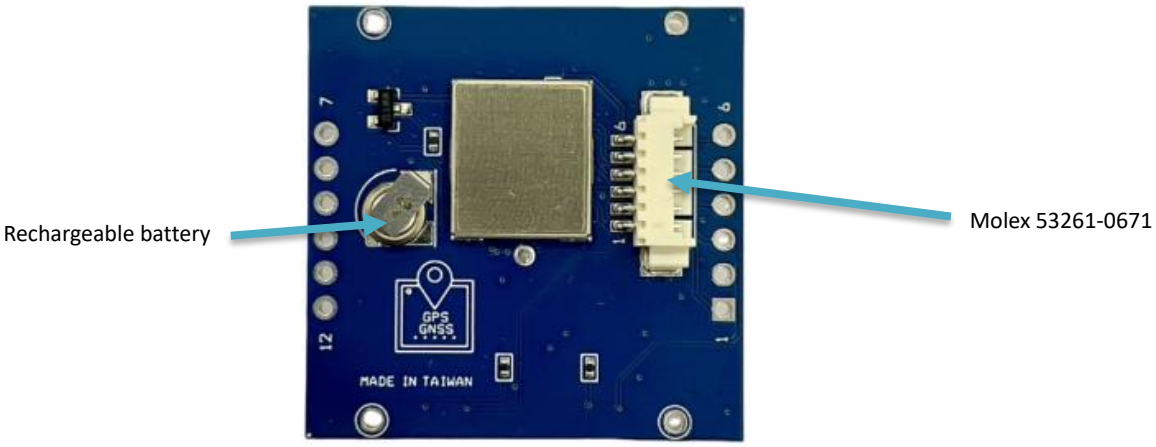
7	GND	-	Ground
8	GND	-	Ground
9	GND	-	Ground
10	GND	-	Ground
11	GND	-	Ground
12	GND	-	Ground

PART FUNCTION



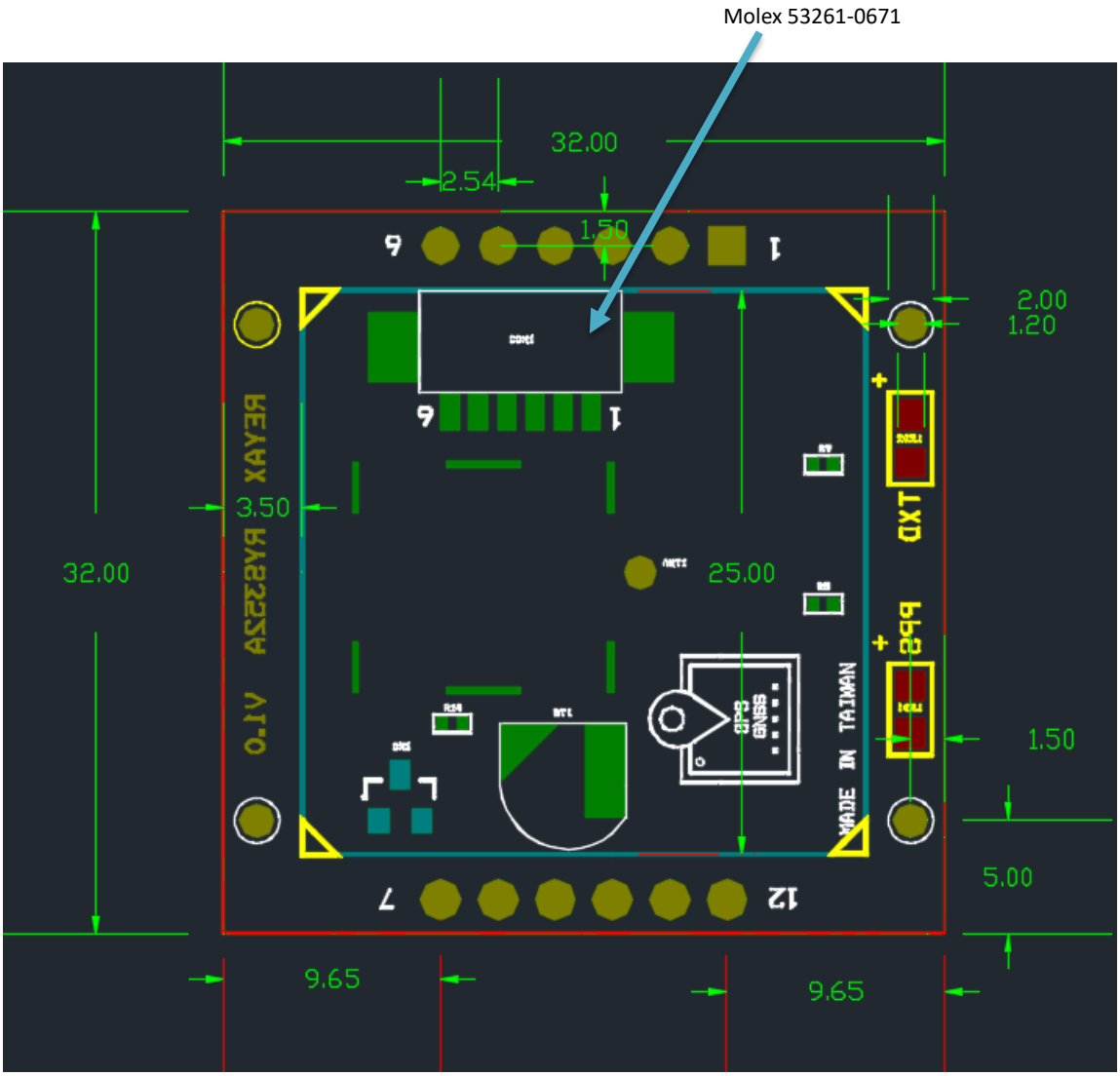


SPECIFICATION

Item	Min.	Typical	Max.	Unit	Condition
Power Supply Voltage	2.5	3.3	3.63	V	VCC
Backup Supply Voltage	1.65	3.3	3.63	V	V_BCKP
Satellite acquisition Current		33		mA	passive antenna
Satellite tracking Current		33		mA	passive antenna
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
Supported GNSS Bands				MHz	GPS L1 C/A, QZSS L1 C/A: 1575.42 MHz GLONASS L1: 1598.0625–1605.375 MHz BDS B1I: 1561.098 MHz B1C*: 1575.42 MHz Galileo E1: 1575.42 MHz
Number of Tracking Channels		47			
Number of Concurrent GNSS		5			
Acceleration			4	G	
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			500	M/s	

Altitude		10000	80000[1]	M	[1]Balloon mode
Acceleration		4		G	
Operating Temperature	-40	25	+85	˚C	
Dimensions					10.1mm*9.7mm*2.3mm
Weight		13.6		gram	

DIMENSIONS (BOTTOM VIEW)



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

Unit : mm

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