TIM-5H

u-blox 5 GPS Receiver

Product description

The TIM-5H module brings the high performance of the u-blox 5 positioning engine to the popular and proven TIM form factor. This full-feature and highly flexible GPS receiver is ideal for upgrading existing designs based on this industry standard form factor.



25.4 x 25.4 x 3 mm

Highlights

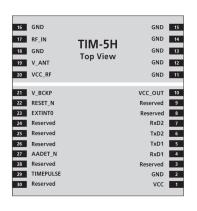
- 50-channel u-blox 5 engine with over 1 million effective correlators
- < 1 second Time-To-First-Fix for Hot and Aided Starts
- -160 dBm SuperSense® acquisition and tracking sensitivity
- Accelerated startup at weak signals with KickStart feature
- A-GPS: Supports u-blox AssistNow Online and Offline, OMA SUPL compliant
- High immunity to jamming
- Hybrid GPS, GALILEO and SBAS (WAAS, EGNOS, MSAS, GAGAN) engine
- 2 Hz position update rate
- Easy migration from TIM-4 modules
- GALILEO ready
- RoHS compliant

Features

Serie	Power	Size	Memory	Function					Antenna		Input / Output					
	Voltage range [V]	Thickness [mm]	Programmable (Flash) FW update	Power Save mode	KickStart	Dead Reckoning	Raw data	Precision Timing	Antenna supply	Antenna supervisor	UART	USB	SPI	DDC (I²C compliant)	Reset input	Configuration pin
TIM-5H	2.7 - 3.6	3	•	•	•				•	•	2				•	



Mechanical data



Dimensions 25.4 x 25.4 x 3 mm

Weight 3 g

Electrical data

Power supply 2.7 to 3.6 V

Power consumption 69 mW @ 3.0 V Power Save mode

135 mW @ 3.0 V Eco mode

141 mW @ 3.0 V Max. Performance mode

Backup power $1.4 \text{ V to } 3.6 \text{ V}, 25 \mu\text{A}$ Antenna type Active and passive

Antenna power External or internal VCC_RF

Antenna supervision Integrated short-circuit detection

and antenna shutdown, open circuit detection is supported with AADET_N input and little external circuitry

Interfaces

Serial ports 2 UARTs

Digital I/O Configurable time pulse

1 EXTINT input

Serial and I/O voltages 2.7 to 3.6 V

Protocols NMEA, UBX binary

Receiver performance data

Receiver type 50-channel u-blox 5 engine

GPS L1 C/A code

GALILEO L1 Open Service (with upgrade) SBAS: WAAS, EGNOS, MSAS, GAGAN

Max. update rate 2 Hz

Accuracy¹ Position 2.5 m CEP

SBAS 2.0 m CEP

Acquisition¹ Cold starts: 29 s Warm starts: 29 s

Aided starts²: < 1 s Hot starts: < 1 s

Sensitivity³ Acquisition: -160 dBm

Tracking: -160 dBm Cold starts: -144 dBm

Timing accuracy RMS 30 ns

99% < 60 ns Granularity 21 ns

Time pulse Configurable 0.25 to 1000 Hz

Multipath suppression Intelligent multipath detection

and suppression

A-GPS Supports AssistNow Online and

AssistNow Offline,
OMA SUPL compliant

Operational limits Velocity: 500 m/s (972 knots)

Altitude: 50,000 m

Operating temp. -40° C to 85° C Storage temp. -40° C to 85° C

1 All SV @ -130 dBm

² Dependent on aiding data connection speed and latency

³ Demonstrated with a good active antenna

Support products

EVK-5H u-blox 5 Evaluation Kit with KickStart

suitable for: TIM-5H

Ordering information

TIM-5H-0 Progr. u-blox 5 GPS Module with KickStart

Available as samples and tape on reel (100 pieces)

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Contact us

HQ Switzerland China

+41 44 722 7444 +86 10 68 133 545 info@u-blox.com info_cn@u-blox.com

EMEA Japan

+41 44 722 7444 +81 3 5775 3850 info@u-blox.com info_jp@u-blox.com

Americas Korea

+1 703 483 3180 +82 02 542 0861 info_us@u-blox.com info_kr@u-blox.com

APAC – Singapore Taiwan

+65 6734 3811 +886 2 2657 1090 info_ap@u-blox.com info_tw@u-blox.com

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