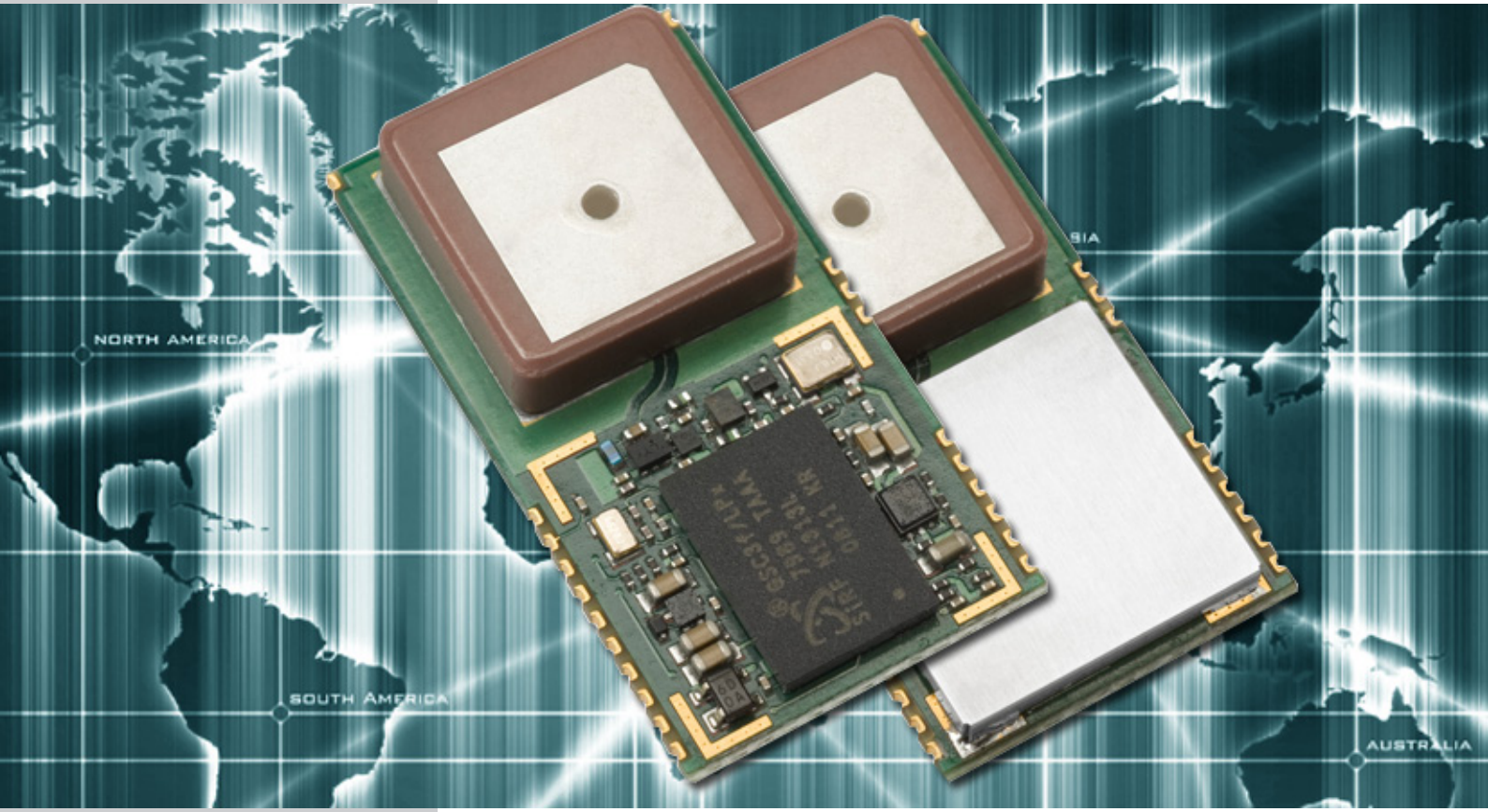
Datasheet

maestro GPS receiver



A1035-H

Positioning Product

Integrated Antenna
Low Power Consumption

Cost-efficient and complete – an SMT GPS antenna module

The A1035-H is Maestro Wireless Solutions answer to the most critical requirements in the GPS market: high performance, new features and lowest costs. The complete GPS antenna module is designed around the low power SiRFStar III chip. With the antenna tuned to the module, the module combines high sensitivity with an extremely low current draw. The module also offers an additional input for external antennas. By changing the state of an input pin, the application can switch between this external antenna and the integrated one. Surface Mount Technology (SMT) allows for use of pick-and-place machines, so no manual operation is required.

Features	Benefits
Lowest assembly cost	Complete GPS module on SMT basis
Antenna select option	Integrated RF switch
Small footprint	16.5 x 30.5 mm^2
Low power consumption	86 mW average in tracking mode
Bench marking sensitivity	-159 dBm tracking

SiRF Powered SiRFstarIII

Positioning Receiver Portfolio

With the mission to support our customers in implementing GPS functionality into their systems, Maestro Wireless Solutions is offering a distinct product portfolio to address a wide area of applications. These range from traditional telematics solutions to latest highly integrated consumer devices, all of them having their special requirements towards a GPS module. Based on SiRFstarIII and now also SiRFstarIV chip sets, Maestro Wireless Solutions GPS module solutions address different specific needs and combine high performance, low power consumption, and simplified integration effort. Our modules comply with the RoHS standard and are 100% electrically and functionally tested prior to packaging, thereby assuring the guarantee of the highest quality products.

GPS Receivers	Supply voltage / V	Current draw @1fix per sec / mA	Operating temperature / °C	Low Power Mode Trickle Power	Low Power Mode Push-To-Fix	Low Power Mode Keep Ephemeris Alive	AGPS Ephemeris Push	Active antenna	Passive antenna	2nd antenna input Antenna switch	Firmware update (Flash)	ROM	SBAS support	Back-up battery option	Shielding lid	Sensor Interface	Size / mm²
A1080-A	3.3	23	-30/85	■	■		■	■			■		■	■			19x16
A1080-B	3.3	23	-40/85	■	■		■	■			■		■	■			19x16
A1084-A	3.3	26	-30/85	■	■		■	■	■	■	■		■	■	■		15x15
A1084-B	3.3	26	-30/85	■	■		■	■	■		■		■	■	■		15x15
A2100-A	3.3	32	-40/85	■	■	■	■	■	■		■		■		■	■	15x15
A2100-B	1.8	64	-40/85	■	■	■	■	■	■		■		■		■	■	15x15

SiRF III
SiRF IV

GPS Receiver w/ Smart Antenna	Antenna Type	Circular polarisation	Linear polarisation	SMD solderable	External antenna pin	Shielding lid	Size / mm²	Based on GPS receiver
A1035-H	patch	■		■	■	■	30x17	A1080-A

Technical Details A1035-H

PERFORMANCE

Channels	20 parallel tracking
Correlators	200,000 plus
Frequency	L1 - 1,575 MHz
Sensitivity	
Tracking	- 159 dBm (external) - 158 dBm (integrated)
Acquisition (cold start)	- 142 dBm
Position Accuracy (horizontal)	< 2.5 m CEP (autonomous) < 2.0 m CEP SBAS
Time To First Fix	
Hot Start[1]	< 1 s
Warm Start[2]	< 32 s
Cold Start[3]	< 35 s

COMMUNICATION

Standard GPS software	
NMEA message Switchable	GGA, GSA, GSV, VTG, RMC, GLL
Baud rate	4,800 (default) to 115,200
Serial ports	3.3 V CMOS compatible
Tx0	NMEA output
Rx0	NMEA input

ENVIRONMENT

Temperature	
Operating	-40°C to +85°C
Storage	-40°C to +85°C
Humidity	Non condensing

POWER

Input voltage	3.0 to 3.6 VDC
Current draw	
Acquisition	31 mA (typical)
Tracking	26 mA (typical)
Standby	20 µA (typical)
Antenna supply via Vant	
Voltage range	up to 5.0V
Max. allowed current[4]	50 mA

MECHANICAL

Dimensions	
L x W x H	30.5 x 16.5 x 5.0 mm³
L x W x H	1.2" x 0.65" x 0.2"
Weight	4.0 g / 0.14 oz.

1) The receiver has estimates of time/date/position and valid almanac and ephemeris data.
2) The receiver has estimates of time/date/position and almanac
3) The receiver has no estimate of time/date/position, and no recent almanac
4) An external current limiter is suggested to avoid damage in fault conditions

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