



Get your Position!



A1029-B Easy Plug-in GPS Module

The A1029-B expands the line of the new generation of Tyco's GPS receiver modules based on ST Microelectronics' STA2051 base-band chip. Offering a high level of performance at ultra-low power consumption, this receiver allows an easy plug-in to motherboards, shows durability towards shock and vibration, and provides comfortable antenna connection via cable and a standard SMA connector. Due to the perfect combination of highly sophisticated firmware, the base-band processor and the SiGe SE4100L GPS RF chip the module achieves high sensitivity and excellent TTFF values. Beyond the NMEA information it features an accurate one pulse per second (1PPS) signal synchronized to Universal Time (UTC). The module is prepared to support WAAS/EGNOS in order to provide even higher position accuracy.

- Off-the-shelf NMEA module
- Plug-in via cost-effective standard I/O connector
- Antenna cable and connector for easy system integration
- Fixable, therefore shock and vibration resistant
- Ultra-low power consumption
- Differential ready

Performance

Channels	12 parallel tracking
Frequency	L1 - 1575 MHz
Position Accuracy	
Stand alone	3 m CEP, SA off
Differential ¹	< 1 m CEP
Time To First Fix	
Obscuration recovery ²	1 s
Hot start ³	< 3 s
Warm start ⁴	< 32 s
Autonomous/Cold ⁵	< 60 s
Power-off start ⁶	varying

Mechanical

Dimensions	33 mm x 45.7 mm x 4.5 mm
	1.3" x 1.8" x 0.18"
Cable Length	~ 100 mm, 4"
Weight	11 g, 0.5 oz



Power

Input Voltage	3.0 to 3.6 VDC
Current Draw	
Operational (1 fix/s)	< 50 mA
Standby	< 30 µA
Antenna Supply via VANT	
Voltage range	VCC-0.5 V to 5.2 V
Max. allowed current	50 mA ⁷
Antenna Current Monitor	
ANTSTAT high	9 mA < I _{ant} < 16 mA (typ.)
ANTSTAT low	I _{ant} out of above specified range

1) Assumes a benign multipath environment and differential corrections once per second.
 2) The receiver's calibrated clock is not stopped, thus it knows precise time (to the µs level).
 3) The receiver has estimates of time/date/position and valid almanac and ephemeris data.
 4) The receiver has estimates of time/date/position and almanac.
 5) The receiver has no estimate of time/date/position, and no recent almanac.
 6) Receiver is powered-off, clock stops. Start-up time depends on time to power on and power-on location.
 7) An external current limiter is suggested to avoid damage in fault conditions.

Communications

Standard GPS Software	
NMEA Message Switchable	GGA, GSA, GSV, VTG, RMC
Baudrate (in baud)	4800 default, 9600, 19200, 38400
Geodetic Datum	WGS84 Standard and 258 map datums
Projection	UTM
Bootloader	Easy firmware update through serial port
Serial Ports	
	3.3V CMOS compatible
Tx0	NMEA output
Rx0	NMEA input
Tx2	Test report output
Rx2	RTCM input (DGPS)

Connectors

Data/Power	Standard 1.27 mm (0.05") double row low profile socket with 22 pins
Antenna	SMA female bulk-head

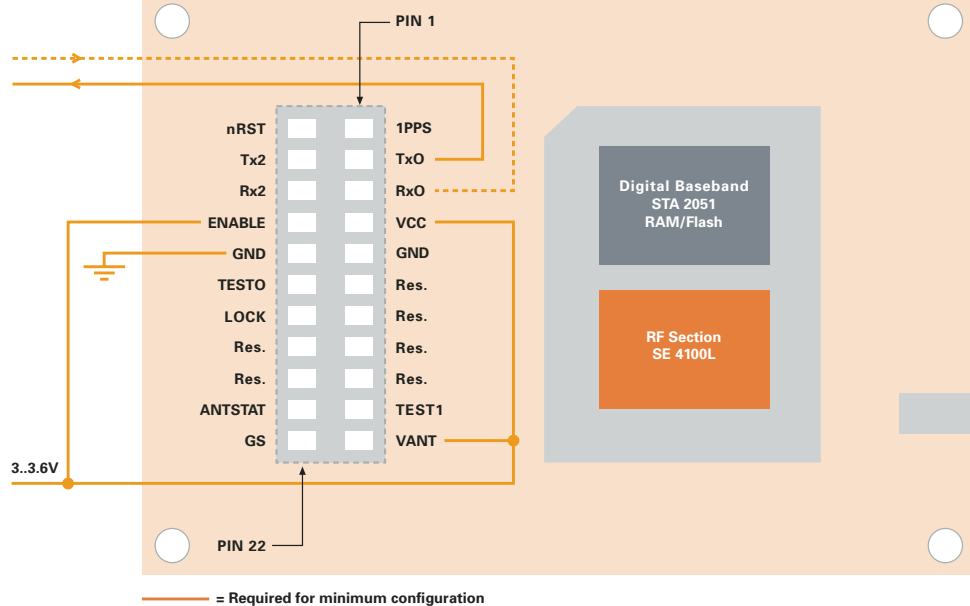
Environment

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

Products

A1029-B	GPS receiver module, single samples or quantities.
DKS1029-B	Demonstration kit with two RS232 serial interfaces to be connected to PC environment, 5 to 12 VDC input range; complete with A1029-B module, active antenna, serial cable, documentation.

BOTTOM VIEW



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