



S1216F8-GI3

L5 NavIC + L1 GPS/GLONASS Receiver Module

FEATURES

- Support NavIC, GPS, GAGAN, GLONASS
- Better than -154dBm hot start sensitivity
- Better than -160dBm tracking sensitivity
- Less than 30 second cold start TTFF
- ~ 1 second hot start
- ~2.5m CEP accuracy
- Multipath detection and suppression
- Complete receiver in 12mm x 16mm size
- Operating temperature -40 ~ +85oC
- Pb-free RoHS compliant

APPLICATIONS

- Vehicle Navigation
- Asset Tracking
- Time Synchronization

The S1216F8-GI3 is a satellite navigation receiver capable of using L5 NavIC and L1 GPS / GAGAN / GLONASS signal to provide 3D navigation in a single compact SMD module. The S1216F8-GI3 has 56 tracking channels and could track all in-view satellites. It is fully autonomous such that once power is applied, the receiver automatically searches, acquires and tracks satellite signals. When a sufficient number of satellites are tracked with valid measurements, the receiver produces 3D position and velocity outputs.

NavIC + GPS + GLONASS triple-satellite capability enables using greater number of satellite signal than GPS-only receivers. The increased satellite number offers superior performance in challenging urban canyon and multipath environments.

The S1216F8-GI3 module contains SkyTraQ Venus 8 positioning engine inside, featuring high sensitivity, low power consumption, and fast TTFF. The superior cold start sensitivity allows it to acquire, track, and get position fix autonomously in difficult weak signal environment. The receiver's superior tracking sensitivity allows continuous position coverage in nearly all outdoor application environments.



TECHNICAL SPECIFICATIONS

Receiver Type	L5 NavIC, L1 GPS/GLONASS C/A code Venus 8 engine
Accuracy	Position 2.5m CEP Velocity 0.1m/sec Time 12nsec
Startup Time	~1sec hot start < 30sec cold start
Sensitivity	< -145dBm cold-start < -154dBm hot-start < -155dBm re-acquisition < -160dBm tracking
Multi-path Mitigation	Multi-path detection & suppression
A-GPS	7-day server-based AGPS Self-aided ephemeris estimation
Update Rate	1Hz
Dynamics	4G acceleration
Operational Limits	Altitude < 18,000m or velocity < 515m/s, not exceeding both
Serial Interface	3.3V LVTTTL level UART
Protocol	NMEA-0183 V3.01, SkyTraq binary
Datum	Default WGS-84, User definable
Input Voltage	3.3V DC +/-10%
Current Consumption	110mA
Dimension	12mm W x 16mm L
Weight:	2g

ORDERING INFORMATION

Part Number	Description
S1216F8-GI3	L5 NavIC + L1 GPS/GLONASS Receiver Module

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