LEON-G100 Automotive

2.5G quad-band GSM/GPRS modules

Highlights

- Ready for eCall
- Meets automotive quality requirements
- Extended temperature range: -40 °C to +85 °C
- Full feature quad-band GSM/GPRS, class 10
- Embedded TCP/IP stack
- Lowest standby current: < 0.99 mA
- Simple integration of u-blox GPS and A-GPS
- Innovative CellLocate[™] positioning
- SMT mountable for automatic assembly



LEON-G100 Automotive: 18.9 x 29.5 x 3.0 mm

Product description

The LEON-G100 Automotive module provides full feature quad-band GSM/GPRS data and voice communication in a compact and cost optimized SMT form factor.

LEON-G100 ISO 16750 qualified and fully certified module features an extremely low power consumption and a rich set of Internet protocols and is ideally suited for all automotive applications such as vehicle tracking and control, eCall, fleet management, anti-theft systems, road assistance, road-pricing and other automotive applications.

LEON modules implement fully integrated access to u-blox GPS receivers. Wireless and GPS are controlled through a single serial port from any host processor, and A-GPS (AssistNow Online and AssistNow Offline) functionality is integrated. LEON modules enable simple forward migration to u-blox LISA 3G modules and seamless 2G – 3G handover. Customers can thus take maximal advantage of their LEON hardware and software investments.

Product selector

Module	Bands	Interface				Au	Audio Functions													
	GSM/GPRS quad-band	UART	SPI	USB	DDC for u-blox GPS	GPIO	Analog Audio	Digital Audio	Network indication	Antenna Supervisor	Jamming Detection	Embedded TCP/UDP	FTP, HTTP, SMTP	SSL	GPS via Modem	AssistNow software	FW update via serial	FOTA	In-band modem	Battery charging
LEON-G100 Automotive	•	1			1	4	2	1	•	•	•	•	•		•	•	•	R	R	

R = upon request



Features

Quad-Band GSM 850 / 900 / 1800 / 1900 MHz

class 4 (2 W) for 850/900 bands class 1 (1 W) for 1800/1900 bands

GPRS Class 10 (4 downlink, 2 uplink, max. 5)

Mobile Station Class B PBCCH supported CS 1-CS 4 supported

CSD max 9.6 kb/s

Voice HR / FR / EFR / AMR Echo cancellation

Noise reduction

AT Commands 3GPP 27.005, 3GPP 27.007

u-blox AT command extension 3GPP 27.010 MUX protocol

SMS PDU / Text mode / Cell broadcast

Sensitivity (25°C) -110 dBm (typ.) @850/900

-109 dBm (typ.) @1800/1900

Software features

- TCP/IP (UDP/IP) internal stack
- Internet (FTP, HTTP, SMTP)
- Multiple socket & multiple IP addresses
- Firmware update via UART
- Access to u-blox GPS via GSM modem
- AssistNow client for fastest GPS Time-to-First-Fix
- CellLocate™: location based on cellular network

Electrical data

Power supply 3.0 to 4.5 V

Power consumption Power Off: $< 90 \mu A$

Idle mode¹

DRX9: < 0.99 mA
DRX5: < 1.60 mA
Telephony GSM: < 300 mA
GPRS class 10: < 410 mA

Interfaces

A/D converter 1 ADC accessible over AT

Antenna 50 ohm

GSM Antenna Supervisor available

Audio lines 2 Audio Analog

1 Audio Digital (I2S/PCM) interface

GPIO 4 GPIOs: controllable over AT commands

RTC Internal

SIM card Supports 1.8 V and 3 V, SIM toolkit

Serial Port 1 UART

1 DDC (I²C) for GPS communication

Approvals

• R&TTE, CE, GCF, FCC, PTCRB, Anatel, IC, China SRRC, etc.

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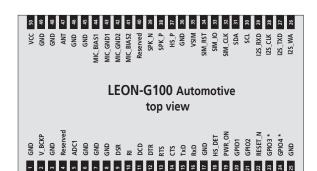
Package

Dimensions 50 pin LCC (Leadless Chip Carrier), surface

mount package: 18.9 x 29.5 x 3.0 mm

Weight: < 5 g

Pinout



LEON-Gx00-06 only. Reserved on previous versions.

Environmental data

Operating temp.

(Ambient) -40 to +85°C Storage temp. -40 to +85°C

RoHS compliant (lead-free)

Automotive features

- Ready for European eCall
- Jamming detection
- LCC package (no connector)
- Qualification according to ISO 16750
 Production site ISO/TS 16040 sortified
- Production site ISO/TS 16949 certified
- VDA 1.6 level 2
- Advanced Product Quality Planning, PPAP, 8D, extended Product Change Notification (PCN)
- Firmware update over-the-air (upon request)

Support tools

EVK-G20 Evaluation Kit for LEON-G100/G200.

Ordering information

LEON-G100-xxA² Quad-band GSM/GPRS module

² xx refers to firmware version.

Delivery packing Tape on reel (250 pieces)

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¹ GSM and GPRS attach