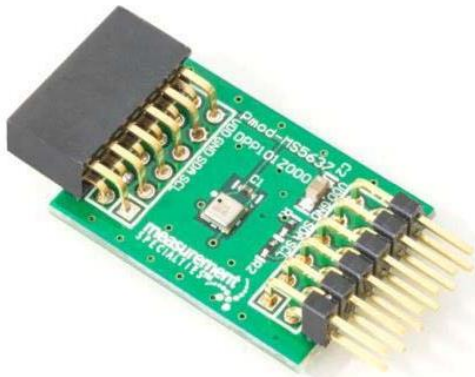




MS5637

PERIPHERAL MODULE

Digital Pressure and Temperature Sensor

General Description

The MS5637 peripheral module provides the necessary hardware to interface the MS5637 digital barometric pressure and temperature sensor to any system that utilizes Pmod compatible expansion ports configured for I²C communication. The MS5637 sensor is a self-contained pressure and temperature sensor that is fully calibrated during manufacture. The sensor can operate from 1.5V to 3.6V. The sensor module includes a high-linearity pressure sensor and an ultra-low power 24 bit $\Delta\Sigma$ ADC with internal factory-calibrated compensation coefficients.

Specifications

- Measures pressure from 300mbar to 1200mbar
- Measures temperature from -40°C to 85°C
- ± 2 mbar accuracy
- 1.5 to 3.6V operating voltage
- Oversampling ratio can be selected from 256 to 8192 bits
- Very low power – 100 nA in sleep, 1.25 mA during conversion

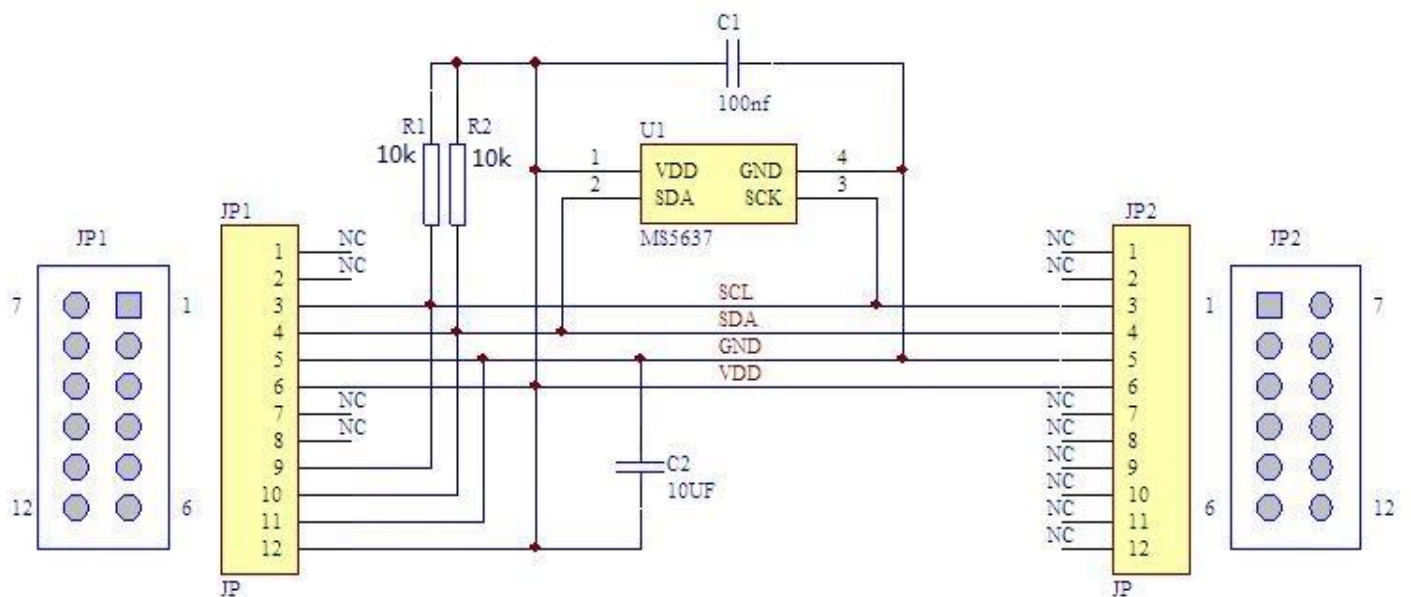
Features

- 12-pin Pmod compatible connector
- I²C interface
- Secondary 12-pin connector allows daisy chain
- FPGA fabric available for download
- μ C C code available for download
- Small package – 3mm x 3mm x 1mm QFN
- Compensation parameters stored on chip
- Available on tape & reel

Performance

- 24 bit resolution for pressure measurement
- 24 bit resolution for temperature measurement
- Conversion time 0.5 to 16.5 mS depending on selected OSR
- Very low hysteresis
- Standard altitude resolution at sea level is 20 cm
- High resolution model available – 13 cm of altitude

Schematic



Connector Pin Assignments (I²C Communications)

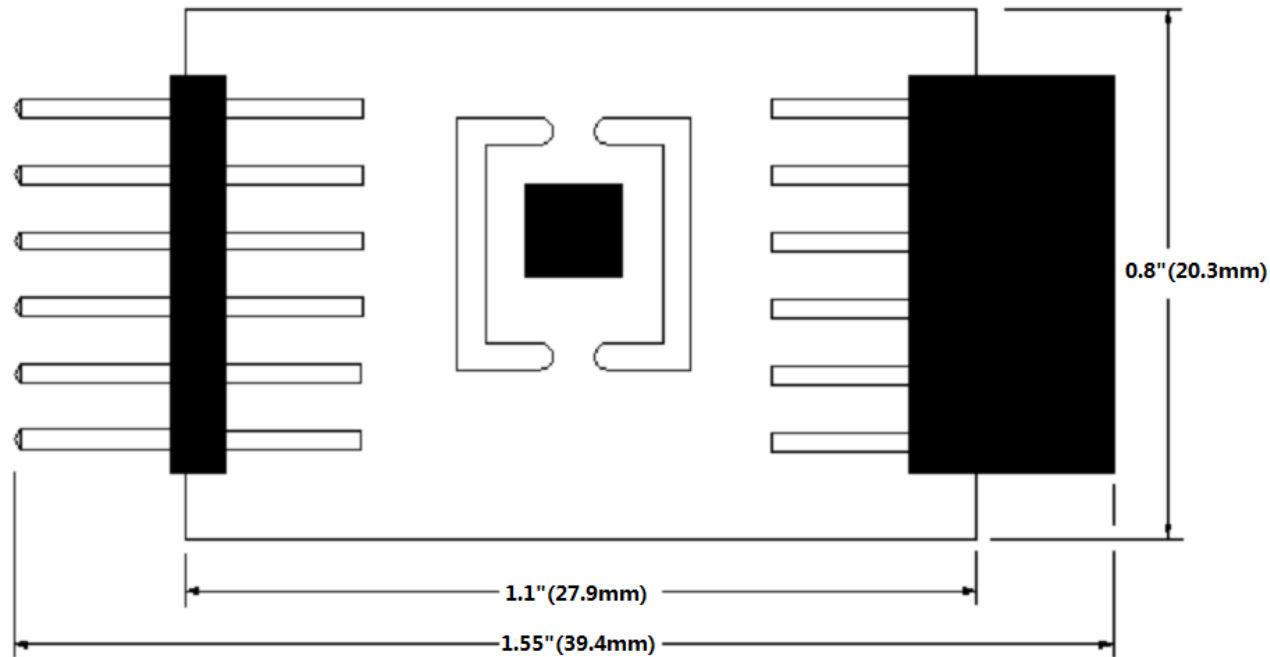
System Plug (Table 1)

Connector J1		
Pin No.	Signal	Description
1	N/C	Not Connected
2	N/C	Not Connected
3	SCL	I ² C Serial Clock
4	SDA	I ² C Serial Data
5	GND	Ground
6	Vdd	Power Supply
7	N/C	Not Connected
8	N/C	Not Connected
9	SCL	I ² C Serial Clock
10	SDA	I ² C Serial Data
11	GND	Ground
12	Vdd	Power Supply

Expansion Socket (Table 2)

Connector J2		
Pin No.	Signal	Description
1	N/C	Not Connected
2	N/C	Not Connected
3	SCL	I ² C Serial Clock
4	SDA	I ² C Serial Data
5	GND	Ground
6	Vdd	Power Supply
7	N/C	Not Connected
8	N/C	Not Connected
9	N/C	Not Connected
10	N/C	Not Connected
11	N/C	Not Connected
12	N/C	Not Connected

Dimensions(mm)



Detailed Description

I²C Interface

The peripheral module can interface to the host in one of two ways. It can plug directly into a Pmod-compatible port (configured for I²C) through connector J1, or to other I²C boards that have a Pmod configured expansion connector.

I²C Interface (Daisy Chaining Modules)

Connector J1 provides connection of the module to the Pmod host. The pin assignments and functions adhere to the Pmod standard as shown in Table 1. The J2 connector allows additional Pmod modules to be connected in a daisy-chain fashion. See Table 2.

External Control Signals

The IC operates as an I²C slave using the standard 2 wire I²C connection scheme. The IC is controlled by the host (through the Pmod connector). In cases where one or more of the SCL and SDA signals are driven from an external source, resistors R1, R2 provide pull-up. However, this also increases the apparent load to the external driving source. If the external source is incapable of driving these loads, they should be removed from the PC board.

Reference Material

- Detailed information regarding operation of the IC:
[MS5637 Datasheet](#)
- Detailed information regarding the MicroZed Driver:
[MS5637 MicroZed Driver](#)
- Complete software sensor evaluation kit for MicroZed:
[MS5637 MicroZed Software](#)
- Detailed information regarding the ZedBoard Driver:
[MS5637 ZedBoard Driver](#)
- Complete software sensor evaluation kit for ZedBoard:
[MS5637 ZedBoard Software](#)

Ordering Information

Description	Part Number
MS5637 PERIPHERAL MODULE	DPP101Z000

te.com/sensorsolutions

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PRODUCT SHEET

Contact us:

Measurement Specialties Inc – MEAS France
Impasse Jeanne Benozzi CS 83 163
31027 Toulouse Cedex 3, FRANCE
Tel: +33 (0)5 820.822.02 Fax: +33 (0)5.820.821.51
Sales: sales.tlse.fr@meas-spec.com
MEAS Website: http://www.meas-spec.com/DCS_TBD



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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
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- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.