



MS8607 PERIPHERAL MODULE

Digital Pressure and Humidity Sensor

General Description

The MS8607 peripheral module provides the necessary hardware to interface the MS8607 digital pressure, relative humidity and temperature sensor to any system that utilizes Xplained pro compatible expansion ports configurable for I²C communication. The MS8607 sensor is a self-contained pressure, humidity and temperature sensor that is fully calibrated during manufacture. The sensor can operate from 1.5V to 3.6V. The MS8607 is ideal for weather station applications embedded into compact devices and any applications in which pressure, humidity and temperature monitoring is required.

Specifications

- Operating pressure range: 300 to 1200 mbar
- Measures relative humidity from 0% to 100%
- Measures temperature from -40°C to 125°C
- Extended pressure range 10 to 2000 mbarr
- Fast response time
- I²C communication
- Very low power consumption

Features

- 20-pin Xplained pro compatible connector
- I²C interface
- Xplained Pro hardware identification chip
- Atmel Studio 6 Project available for download
- µC C code available for download
- Selectable resolution for pressure
- Selectable resolution for humidity and temperature
- Electronic ID code stored on chip

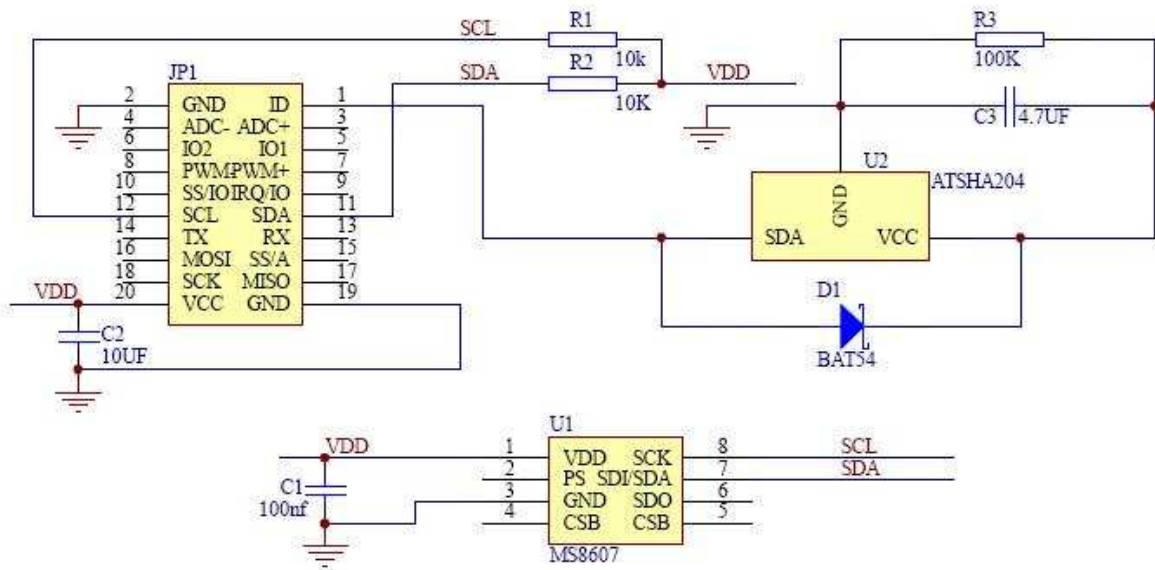
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Performance

- Pressure range: 300 to 1200 mbar
- 0% to 100% relative humidity range
- -40°C to 125°C temperature range
- Operates from 1.5V to 3.6V
- Absolute Pressure accuracy $\pm 2\text{mBar}$ (25°C)
- Absolute Humidity accuracy $\pm 3\%RH$ (25°C, 20-80%RH)
- Absolute Temperature accuracy $\pm 1^\circ\text{C}$ (-20...+85°C)

Schematic



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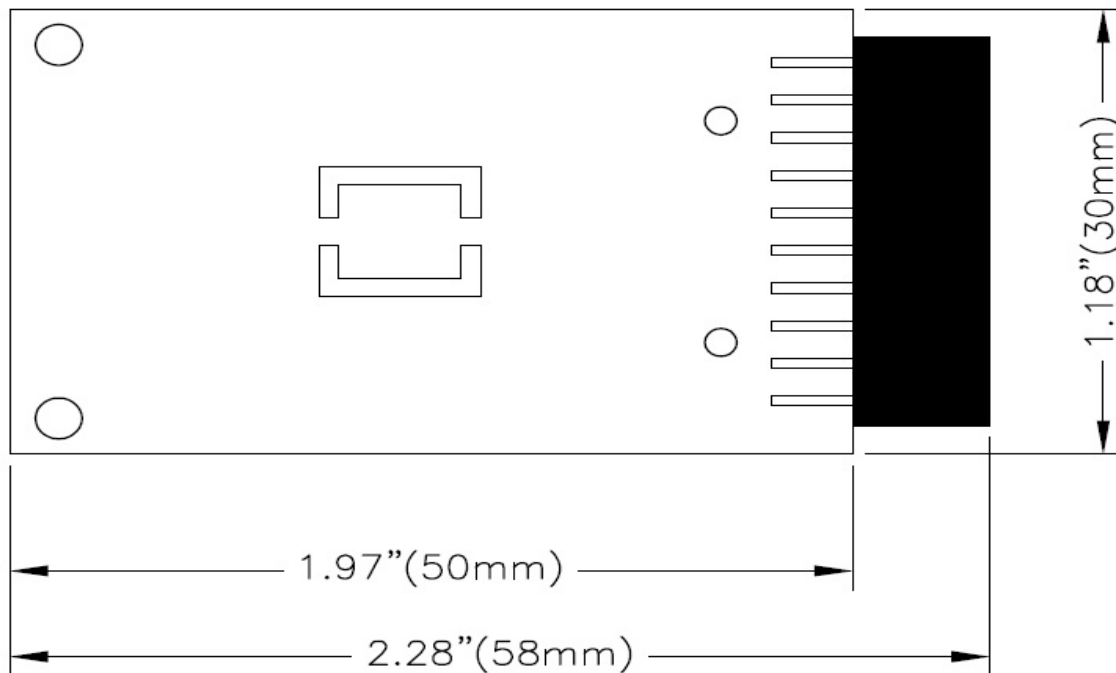
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Connector Pin Assignments (I²C Communications)

System Plug (Table 1)

Connector JP1					
Pin No.	Signal	Description	Pin No.	Signal	Description
1	ID	Address	11	SDA	I2C Serial Data
2	GND	Ground	12	SCL	I2C Serial Clock
3	N/C	Not Connected	13	N/C	Not Connected
4	N/C	Not Connected	14	N/C	Not Connected
5	N/C	Not Connected	15	N/C	Not Connected
6	N/C	Not Connected	16	N/C	Not Connected
7	N/C	Not Connected	17	N/C	Not Connected
8	N/C	Not Connected	18	N/C	Not Connected
9	N/C	Not Connected	19	GND	Ground
10	N/C	Not Connected	20	Vdd	Power Supply

Dimensions(mm)



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Detailed Description

I²C Interface

The peripheral module can interface to the host being plugged directly into an Xplained Pro extension port (configured for I2C) through connector JP1

External Control Signals

The IC operates as an I²C slave using the standard 2 wire I²C connection scheme. The IC is controlled either by the host (through the Xplained pro 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.

Reference Material

- Detailed information regarding operation of the IC:
[MS8607 Datasheet](#)
- Detailed information regarding SAMD2x Driver:
[MS8607 SAMD2x Driver](#)
- Complete software sensor evaluation kit for Xplained Pro:
[MS8607 SAMD2x Software](#)

Ordering Information

Description	Part Number
MS8607 PERIPHERAL MODULE	DPP901A000

te.com/en/products/sensors.html

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PRODUCT SHEET

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