



Sensors

MPL115A

Digital barometric pressure sensor

Overview

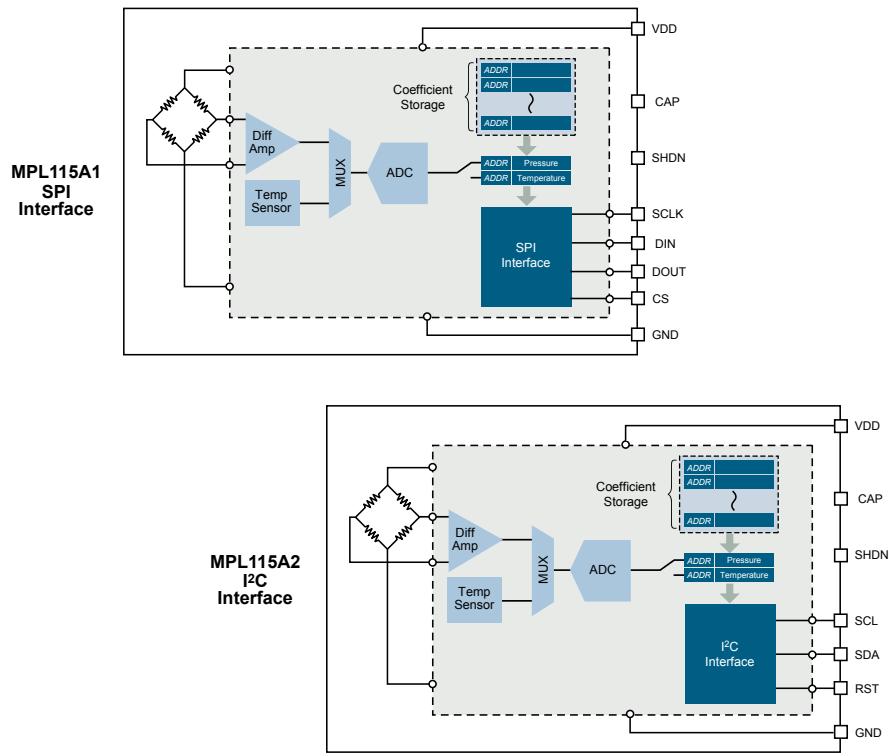
Freescale Semiconductor's MPL115A is a simple barometer with digital output (I²C/SPI) for cost-sensitive applications. A MEMS pressure sensor with a conditioning IC provides accurate pressure measurement. The MPL115A is offered in a 5 x 3 x 1.2 mm LGA package for space constrained applications. This surface mount package is RoHS-compliant. The MPL115A is ideal for battery and solar powered applications with its low current consumption at 1 μ A in sleep mode and 10 μ A in active mode.

The MPL115A enables altitude detection, weather changes and will increase data capacity in hard disk-drives as well as providing absolute pressure measurement for industrial equipment.

Target Applications

- Barometry (portable and desk-top)
- Altimeter
- Weather stations
- Hard disk-drives (HDD)
- Health monitoring
- Cooling fan control
- Dead reckoning assistance
- GPS navigation assistance
- Wound management
- Security and safety
- Ambient pressure switch
- Leak detection
- Vacuum equipment

MPL115A Block Diagrams



Product Selector Guide														
Features	Selector Guide													
	Part Number	Operating Supply Voltage	Supply Current	Pressure Range	Accuracy	Compensated Temperature Range	Digital Interface	Package						
• Digital output options <ul style="list-style-type: none">◦ MPL115A1 for SPI applications◦ MPL115A2 for I²C applications	MPL115A1	2.4–5.5V	10 µA	50–115 kPa	± 1 kPa	0°C–70°C	SPI	8-pin LGA						
• Low-profile 3 x 5 x 1.2 mm LGA package	MPL115A2	2.4–5.5V	10 µA	50–115 kPa	± 1 kPa	0°C–70°C	I ² C	8-pin LGA						
Development Tools														
Part Number		Description												
KITMPL115A1SPI		Evaluation board that demonstrates the SPI communication protocol												
KITMPL115A2I2C		Evaluation board that demonstrates the I ² C communication protocol												
DEMOAPEXSENSOR		The APEX (altitude pressure experimental design) is a board showcasing how pressure sensors can be used to detect altitude at high resolution.												
Documentation														
Document Number		Title	Description											
MPL115A1		MPL115A1 SPI Digital Barometer Pressure Sensor Sheet	Data Sheet											
MPL115A2		MPL115A2 I ² C Digital Barometric Pressure Sensor Data Sheet	Data Sheet											
AN3785		Using Digital Barometric Pressure Sensors in Your Design	Discusses how the interface boards work in both I ² C and SPI designs											
														
<p>Learn More: For current information about Freescale products and documentation, please visit www.freescale.com/pressure.</p>														

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