MPL115A2

Miniature I^2C digital barometer, 50 kPa to 115 kPa

Rev. 10.1 — 17 May 2024 **Product data sheet**

1 General description

The MPL115A2 is an absolute pressure sensor with a digital I^2C output targeting low-cost applications. A miniature 5 x 3 x 1.2 mm LGA package is ideally suited for the space constrained requirements of portable electronic devices. Low current consumptions of 5 µA during Active mode and 1 µA during Shutdown (Sleep) mode are essential when focusing on low-power applications. The wide operating temperature range spans from –40 °C to +105 °C to fit demanding environmental conditions.

The MPL115A2 employs a MEMS pressure sensor with a conditioning IC to provide accurate pressure measurements from 50 kPa to 115 kPa. An integrated ADC converts pressure and temperature sensor readings to digitized outputs via a I^2C port. Factory calibration data is stored internally in an onboard ROM. Utilizing the raw sensor output and calibration data, the host microcontroller executes a compensation algorithm to render *Compensated Absolute Pressure* with ±1 kPa accuracy.

The MPL115A2 pressure sensor's small form factor, low-power capability, precision, and digital output optimize it for barometric measurement applications.

2 Features

- Digitized pressure and temperature information together with programmed calibration coefficients for host micro use.
- Factory calibrated
- 50 kPa to 115 kPa absolute pressure
- ±1 kPa accuracy
- 2.375 V to 5.5 V supply
- Integrated ADC
- I^2C Interface (operates up to 400 kHz)
- 7-bit I^2C address = 60h
- Monotonic pressure and temperature data outputs
- Surface mount RoHS compliant package

3 Applications

- Barometry (portable and desktop)
- Altimeters
- Weather stations
- Hard-disk drives (HDD)
- Industrial equipment
- Health monitoring

- Air control systems

4 Ordering information

Table 1. Ordering information

Type number	Package		
	Name	Description	Version
MPL115A2	TSON8	LGA 8 I/O, 3 X 5 X 1.25 PITCH, SENSOR 1.2MAX MM PKG	SOT1769-1

4.1 Ordering options

Table 2. Ordering options

Device Name	Package Options	# of Ports			Pressure Type			Digital Interface
		None	Single	Dual	Gauge	Differential	Absolute	
MPL115A2T1	Tape and Reel (1000)	•					•	I2C

5 Block diagram

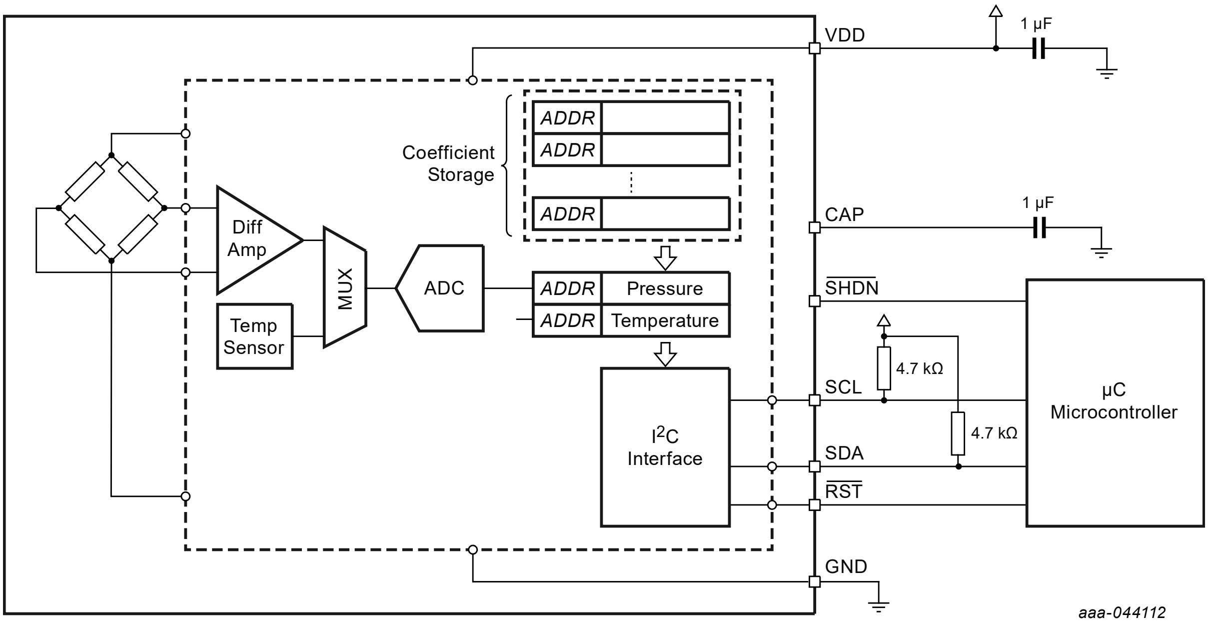


Figure 1. Block diagram of MPL115A2

6 Pinning information

6.1 Pinning

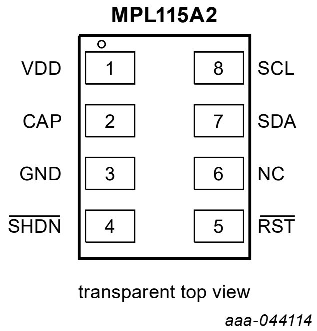


Figure 2. Pin configuration

6.2 Pin description

Table 3. Pin description

Pin	Name	Function
1	VDD	Power Supply Connection: VDD range is 2.375 V to 5.5 V.
2	CAP	1 µF connected to ground.
3	GND	Ground
4	$\overline{\text{SHDN}}$	Shutdown: Connect to GND to disable the device. When in shutdown, the part draws no more than 1 µA supply current and all communications pins ($\overline{\text{RST}}$, SCL, SDA) are high impedance. Connect to VDD for normal operation.
5	$\overline{\text{RST}}$	Reset: Connect to ground to disable I^2C communications.
6	NC	No connection
7	SDA[1]	Serial data I/O line
8	SCL[1]	Serial clock input.

[1] Use 4.7 kΩ pullup resistors for I^2C communication.

7 Handling and board mount recommendations

The sensor die is sensitive to light exposure. Direct light exposure through the port hole can lead to varied accuracy of pressure measurement. Avoid such exposure to the port during normal operation.

7.1 Methods of handling

Components can be picked from the carrier tape using either the vacuum assist or the mechanical type pickup heads. A vacuum assist nozzle type is most common due to its lower cost of maintenance and ease of operation. The recommended vacuum nozzle configuration should be designed to make contact with the device directly on the metal cover and avoid vacuum port location directly over the vent hole in the metal cover of the device. Multiple vacuum ports within the nozzle may be required to effectively handle the device and prevent shifting during movement to placement position.

Vacuum pressure required to adequately support the component should be approximately 25 inches Hg (85 kPa). This level is typical of in-house vacuum supply. Pickup nozzles are available in various sizes and configurations to suit a variety of component geometries. To select the nozzle best suited for the specific application, NXP recommends that the customer consult their pick and place equipment supplier to determine the correct nozzle. In some cases, it may be necessary to fabricate a special nozzle depending on the equipment and speed of operation.

Tweezers or other mechanical forms of handling that have a sharp point are not recommended since they can inadvertently be inserted into the vent hole of the device. These handling methods can lead to a puncture of the MEMS element that renders the device inoperable.

7.2 Board mount recommendations

Components can be mounted using solder paste stencil, screen printed or dispensed onto the PCB pads prior to placement of the component. The volume of solder paste applied to the PCB is normally sufficient to secure the component during transport to the subsequent reflow soldering process. Use of adhesives to secure the component is not recommended, but where necessary can be applied to the underside of the device.

Solder pastes are available in variety of metal compositions, particle size, and flux types. The solder paste consists of metals and flux required for a reliable connection between the component lead and the PCB pad. Flux aids the removal of oxides that may be present on PCB pads and prevents further oxidation from occurring during the solder process.

The use of a No-Clean (NC) flux is recommended for exposed cavity components. Using pressure spray, wire brush, or other methods of cleaning is not recommended since it can puncture the MEMS device and render it unusable. If cleaning of the PCB is performed, Water Soluble (WS) flux can be used. NXP recommends protecting the component cavity using adhesive Kapton tape, vinyl cap, or other means prior to the cleaning process. This covering prevents damage to the MEMS device, contamination, and foreign materials from being introduced into device cavity as result of cleaning processes.

Ultrasonic cleaning is not recommended as the frequencies can damage wire bond interconnections and the MEMS device.

8 Functional description

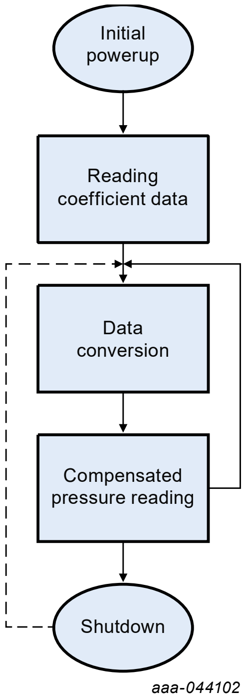


Figure 3. Sequence flowchart

The MPL115A interfaces to a host (or system) microcontroller in the user's application. All communications are via I^2C. A typical usage sequence is as follows:

Initial power-up

All circuit elements are active. I^2C port pins are high impedance and associated registers are cleared. The device then enters Standby mode.

Reading coefficient data

The user then typically accesses the part and reads the coefficient data. The main circuits within the client device are disabled during read activity. The coefficients are usually stored in the host microcontroller local memory but can be re-read at any time.

It is not necessary to read the values stored in the host microcontroller multiple times because the coefficients within a device are constant and do not change. However, note that the coefficients are different from device to device, and cannot be used for another part.

Data conversion

This is the first step that is performed each time a new pressure reading is required which is initiated by the host sending the CONVERT command. The main system circuits are activated (wake) in response to the command and after the conversion completes, the result is placed into the Pressure and Temperature ADC output registers.

The conversion completes within the maximum conversion time, tc (see row 7, in Table 10). The device then enters Standby mode.

Compensated pressure reading

After the conversion has been given sufficient time to complete, the host microcontroller reads the result from the ADC output registers and calculates the Compensated Pressure, a barometric/atmospheric pressure value which is compensated for changes in temperature and pressure sensor linearity. This is done using the coefficient data from the MPL115A and the raw sampled pressure and temperature ADC output values, in a compensation equation (detailed later). Note that this is an absolute pressure measurement with a vacuum as a reference.

From this step, the host controller may either wait and then return to the Data Conversion step to obtain the next pressure reading or it may go to the Shutdown step.

Shutdown

For longer periods of inactivity, the user may assert the $\overline{\text{SHDN}}$ input by driving this pin low to reduce system power consumption. This removes power from all internal circuits, including any registers. In the shutdown state, the Pressure and Temperature registers are reset, losing any previous ADC output values.

This step is exited by taking the $\overline{\text{SHDN}}$ pin high. Wait for the maximum wake-up time, tw (see row 8, in Table 10), after which another pressure reading can be taken by transitioning to the data Conversion step.

Table 4. Device memory map

Address	Name	Description
00h	Padc_MSB	10-bit Pressure ADC output value MSB
01h	Padc_LSB	10-bit Pressure ADC output value LSB
02h	Tadc_MSB	10-bit Temperature ADC output value MSB
03h	Tacd_LSB	10-bit Temperature ADC output value LSB
04h	a0_MSB	a0 coefficient MSB
05h	a0_LSB	a0 coefficient LSB
06h	b1_MSB	b1 coefficient MSB
07h	b1_LSB	b1 coefficient LSB
08h	b2_MSB	b2 coefficient MSB
09h	b2_LSB	b2 coefficient LSB
0Ah	c12_MSB	c12 coefficient MSB
0Bh	c12_LSB	c12 coefficient LSB
0Ch	reserved[1]	—
0Dh	reserved[1]	—
0Eh	reserved[1]	—
0Fh	reserved[1]	—
10h	reserved	—
11h	reserved	—
12h	CONVERT	Start Pressure and Temperature Conversion

[1] This register is set to 00h. It is reserved, and was previously utilized as Coefficient values, c11 and c22, which were always 00h.

For values with less than 16 bits, the lower LSBs are zero. For example, c12 is 14 bits and is stored into 2 bytes as follows:

c12 MSB = c12[13:6] = [$c12_{b13}$, $c12_{b12}$, $c12_{b11}$, $c12_{b10}$, $c12_{b9}$, $c12_{b8}$, $c12_{b7}$, $c12_{b6}$]
c12 LSB = c12[5:0] & "00" = [$c12_{b5}$, $c12_{b4}$, $c12_{b3}$, $c12_{b2}$, $c12_{b1}$, $c12_{b0}$, 0 , 0]

8.1 Pressure, temperature, and coefficient bit-width specifications

The table below specifies the initial coefficient bit-width specifications for the compensation algorithm and the specifications for Pressure and Temperature ADC values.

Table 5. Pressure, temperature, and compensation coefficient specifications

	a0	b1	b2	c12	Padc	Tadc
Total Bits	16	16	16	14	10	10
Sign Bits	1	1	1	1	0	0
Integer Bits	12	2	1	0	10	10
Fractional Bits	3	13	14	13	0	0
dec pt zero pad	0	0	0	9	0	0

Example Binary Format Definitions:

a0 Signed, Integer Bits = 12, Fractional Bits = 3 : Coeff a0 = S I_{11} I_{10} I_9 I_8 I_7 I_6 I_5 I_4 I_3 I_2 I_1 I_0 . F_2 F_1 F_0

b1 Signed, Integer Bits = 2, Fractional Bits = 13 : Coeff b1 = S I_1 I_0 . F_{12} F_{11} F_{10} F_9 F_8 F_7 F_6 F_5 F_4 F_3 F_2 F_1 F_0

b2 Signed, Integer Bits = 1, Fractional Bits = 14 : Coeff b2 = S I_0 . F_{13} F_{12} F_{11} F_{10} F_9 F_8 F_7 F_6 F_5 F_4 F_3 F_2 F_1 F_0

c12 Signed, Integer Bits = 0, Fractional Bits = 13, dec pt zero pad = 9 : Coeff c12 = S 0 . 000 000 000 F_{12} F_{11} F_{10} F_9 F_8 F_7 F_6 F_5 F_4 F_3 F_2 F_1 F_0

Padc Unsigned, Integer Bits = 10 : Padc U = I_9 I_8 I_7 I_6 I_5 I_4 I_3 I_2 I_1 I_0

Tadc Unsigned, Integer Bits =10 : Tadc U = I_9 I_8 I_7 I_6 I_5 I_4 I_3 I_2 I_1 I_0

Note: *Negative coefficients are coded in two's complement notation.*

8.2 Compensation

The 10-bit compensated pressure output, Pcomp, is calculated as follows:

$$Pcomp = a0 + (b1 + c12 \cdot Tadc) \cdot Padc + b2 \cdot Tadc \tag{1}$$

Where:
- Padc is the 10-bit pressure ADC output of the MPL115A
- Tadc is the 10-bit temperature ADC output of the MPL115A
- a0 is the pressure offset coefficient
- b1 is the pressure sensitivity coefficient
- b2 is the temperature coefficient of offset (TCO)
- c12 is the temperature coefficient of sensitivity (TCS)

Pcomp produces a value of 0 with an input pressure of 50 kPa and produces a full-scale value of 1023 with an input pressure of 115 kPa.

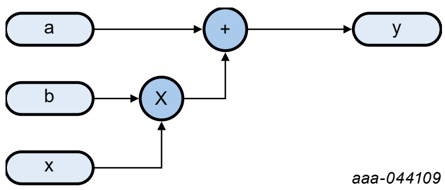
$$\text{Pressure (kPa)} = Pcomp \cdot \left[\frac{115-50}{1023}\right] + 50 \tag{2}$$

8.3 Evaluation sequence, arithmetic circuits

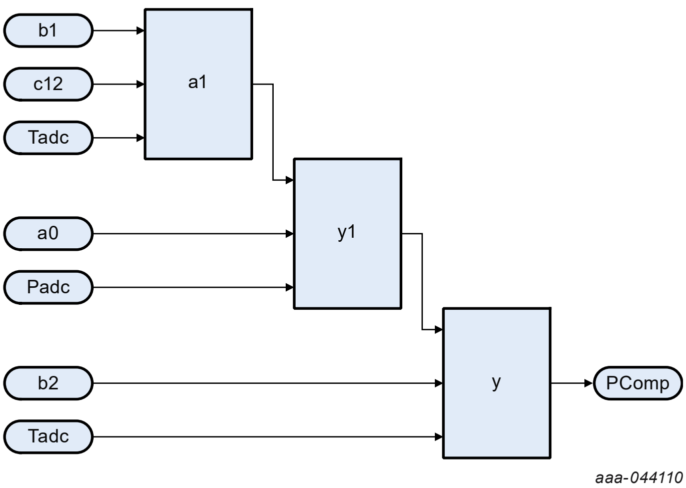
The following is an example of the calculation for Pcomp, the compensated pressure output. Input values are in **bold.**

c12x2 = **c12** * **Tadc**
a1 = **b1** + c12x2
a1x1 = a1 * **Padc**
y1 = **a0** + a1x1
a2x2 = **b2** * **Tadc**
Pcomp = y1 + a2x2

This can be calculated as a succession of Multiply Accumulates (MACs) operations of the form *y = a + b * x:*



The polynomial can be evaluated (Equation 1) as a sequence of 3 MACs:



Refer to NXP application note AN3785 for more detailed notes on implementation.

8.4 I²C device read/write operations

All device read/write operations are memory mapped. Device actions, for example, Start Conversions, are controlled by writing to the appropriate memory address location.

- For I²C, the 7-bit device address (from Table 2) has a read/write toggle bit, where the least significant bit is ‘1’ for read operations or ‘0’ for write operations. The Device Address is C0h for a *Write* and the Device Address is C1h for a *Read*.

- The most significant bit in the Command tables below is not used and is don't care (X). In the examples given, it is set to ‘0’.

Refer to Sensor I^2C Setup and FAQ Application Note AN4481 for more information on I^2C communication between the sensor and host controller.

Table 6. I^2C write commands

Legend: X - don't care

Command	Binary	HEX[1]
Devices Address + Write bit	1100 0000	C0h
Start Conversions	X001 0010	12h

[1] The command byte must be paired with a 00h as part of the I^2C exchange to complete the passing of Start Conversions.

The actions taken by the part in response to each command are as follows:

Table 7. I^2C write command description

Command	Action Taken
Start Conversions	Wake main circuits. Start clock. Allow supply stabilization time. Select pressure sensor input. Apply positive sensor excitation and perform A to D conversion. Select temperature input. Perform A to D conversion. Load the Pressure and Temperature registers with the result. Shut down main circuits and clock.

Table 8. I^2C read command description

Legend: X - don't care

Command	Binary	HEX
Device Address + Read bit	1100 0001	C1h
Read Pressure MSB	X000 0000	00h
Read Pressure LSB	X000 0001	01h
Read Temperature MSB	X000 0010	02h
Read Temperature LSB	X000 0011	03h
Read Coefficient data byte 1	X000 0100	04h

These are MPL115A2 I^2C commands to read coefficients, execute pressure and temperature conversions, and to read pressure and temperature data. The sequence of the commands for the interaction is given as an example to operate the MPL115A2.

Utilizing this gathered data, an example of the calculating the compensated pressure reading is given in floating point notation.

I^2C commands (simplified for communication)

Device Address + write bit "To Write" = C0h
Device Address + read bit "To Read" = C1h
Command to Write "Convert Pressure and Temperature" = 12h
Command to Read "Pressure ADC High byte" = 00h
Command to Read "Pressure ADC Low byte" = 01h
Command to Read "Temperature ADC High byte" = 02h

Command to Read "Temperature ADC Low byte" = 03h
Command to Read "Coefficient data byte 1 High byte" = 04h

Read coefficients

[C0h], [04h], [C1h], [3Eh], [CEh], [B3h], [F9h], [C5h], [17h], [33h], [C8h]

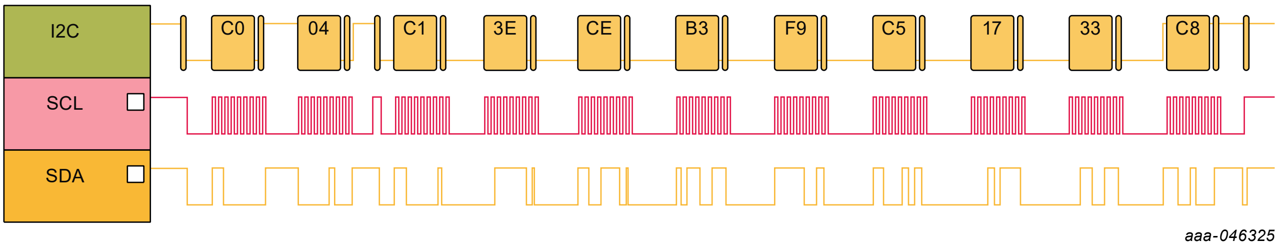
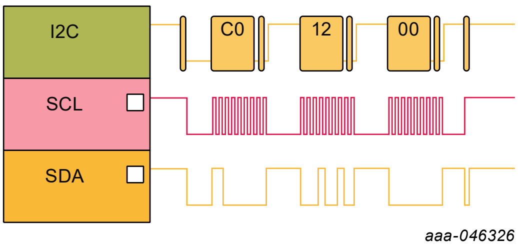


Figure 4. I²C read coefficient datagram

a0 coefficient MSB	=	3Eh					
a0 coefficient LSB	=	CEh	a0 coefficient	=	3ECEh	=	2009.75
b1 coefficient MSB	=	B3h					
b1 coefficient LSB	=	F9h	b1 coefficient	=	B3F9h	=	-2.37585
b2 coefficient MSB	=	C5h					
b2 coefficient LSB	=	17h	b2 coefficient	=	C517h	=	-0.92047
c12 coefficient MSB	=	33h					
c12 coefficient LSB	=	C8h	c12 coefficient	=	33C8h	=	0.000790



Command to I²C start conversion, 12h

Figure 5. I²C Start conversion datagram

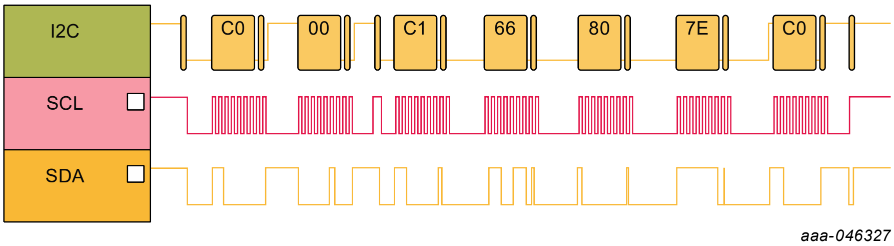


Figure 6. I²C read results datagram

Pressure MSB	=	66h					
Pressure LSB	=	80h	Pressure	=	6680h	=	0110 0110 1100 0000
						=	410 ADC counts
Temperature MSB	=	7Eh					
Temperature LSB	=	C0h	Temperature	=	7EC0h	=	0111 1110 1100 0000
						=	507 ADC counts

8.5 Example of pressure compensated calculation in floating-point notation

a0 coefficient	=	2009.75
b1 coefficient	=	-2.37585
b2 coefficient	=	-0.92047
c12 coefficient	=	0.000790

Pressure	=	410 ADC counts
Temperature	=	507 ADC counts

Pressure compensation

$$Pcomp = a0 + (b1 + c12 \cdot Tadc) \cdot Padc + b(c)$$

Using the evaluation sequence

The evaluation sequence is located in Section 8.3.

c12x2	=	c12 * Tadc	=	0.000790 * 507	=	0.40053
a1	=	b1 + c12x2	=	-2.37585 + 0.40053	=	-1.97532
a1x1	=	a1 * Padc	=	-1.97532 * 410	=	-809.8812
y1	=	a0 + a1x1	=	2009.75 + (-809.8812)	=	1199.8688
a2x2	=	b2 * Tadc	=	-0.92047 * 507	=	-466.67829
PComp	=	y1 + a2x2	=	1199.8688 + (-466.67829)	=	733.19051

$$\text{Pressure (kPa)} = Pcomp \cdot \left[\frac{115-50}{1023}\right] + 50$$

$$= 96.59 kPa$$

$$= 733.19 \cdot \left[\frac{115-50}{1023}\right] + 50$$

9 Maximum ratings

Table 9. Maximum ratings
Voltage (with respect to GND unless otherwise noted)

Symbol	Value	Units
V_{DD}	–0.3 to +5.5	V
$\overline{SHDN}$, RST, SDA, SCL	–0.3 to V_{DD} + 0.3	V
Operating Temperature Range	–40 to +105	°C
Storage Temperature Range	–40 to +125	°C
Overpressure	1000	kPa

10 Mechanical and electrical characteristics

Table 10. Mechanical and electrical characteristics
V_{DD} = 2.375 V to 5.5 V, T_A = –40 °C to +105 °C, unless otherwise noted. Typical values are at V_{DD} = 3.3 V, T_A = +25 °C.

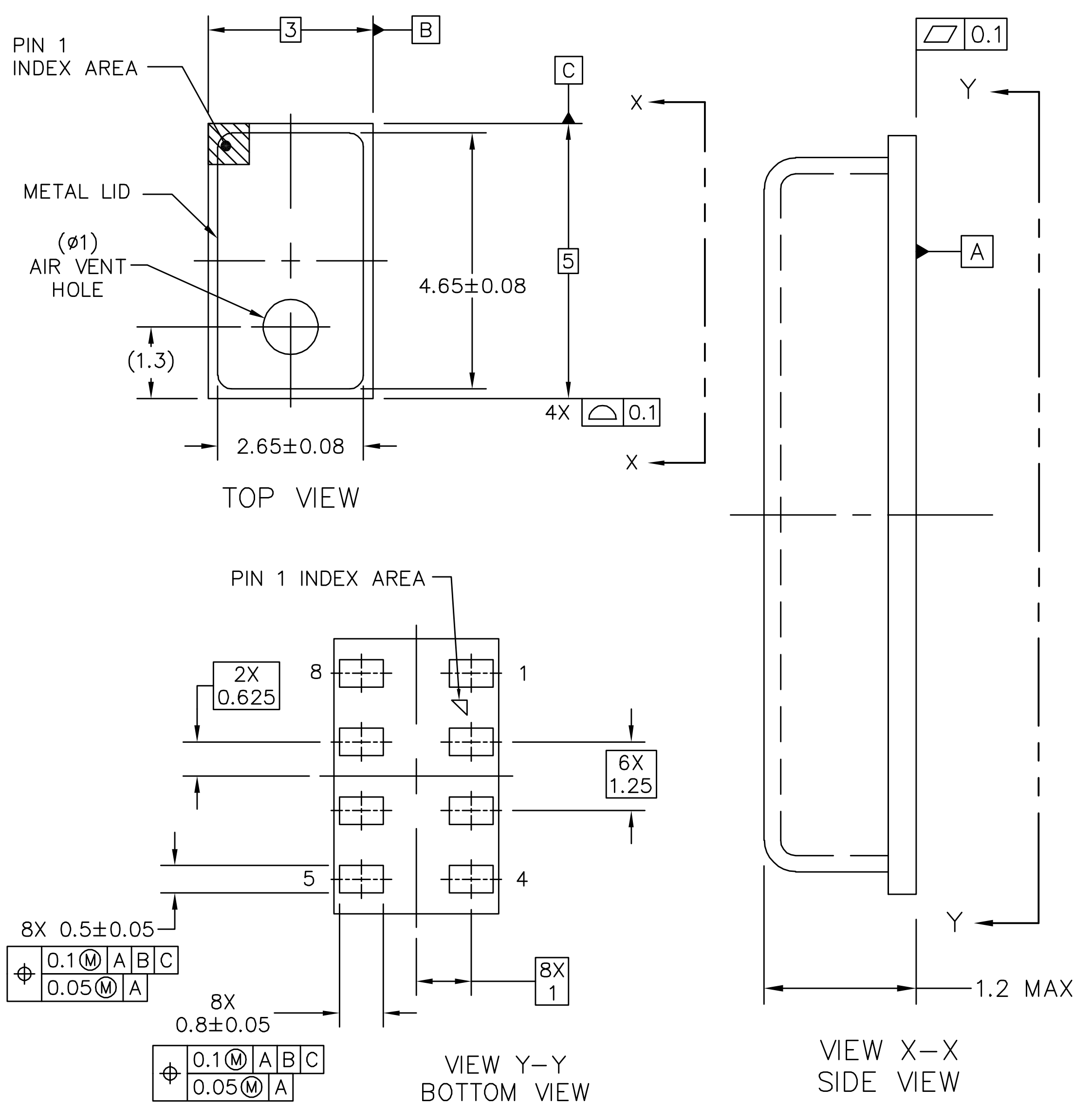
Ref	Parameters	Symbol	Conditions	Min	Typ	Max	Units
1	Operating Supply Voltage	V_{DD}		2.375	3.3	5.5	V
2	Supply Current	I_{DD}	Shutdown ($\overline{SHDN}$ = GND)	—	—	1	µA
			Standby	—	3.5	10	µA
			Average – at one measurement per second	—	5	6	µA
Pressure Sensor							
3	Range			50	—	115	kPa
4	Resolution			—	0.15	—	kPa
5	Accuracy		–20 ºC to 85 ºC	—	—	±1	kPa
6	Power Supply Rejection		Typical operating circuit at DC		0.1	—	kPa/V
			100 mV p-p 217 Hz square wave plus 100 mV pseudo random noise with 10 MHz bandwidth		0.1	—	kPa
7	Conversion Time *(Start Pressure and Temperature Conversion)*	tc	Time between start convert command and data available in the Pressure and Temperature registers	—	1.6	3	ms

Table 10. Mechanical and electrical characteristics*...continued*

V_{DD} = 2.375 V to 5.5 V, T_A = –40 °C to +105 °C, unless otherwise noted. Typical values are at V_{DD} = 3.3 V, T_A = +25 °C.

Ref	Parameters	Symbol	Conditions	Min	Typ	Max	Units
8	Wake-up Time	tw	Time between leaving Shutdown mode ($\overline{SHDN}$ goes high) and communicating with the device to issue a command or read data.	—	3	5	ms
I^2C I/O Stages: SCL, SDA							
9	SCL Clock Frequency	f_{SCL}		—	—	400	kHz
10	Low-level Input Voltage	VIL		—	—	$0.3V_{DD}$	V
11	High-level Input Voltage	VIH		$0.7V_{DD}$	—	—	V
I^2C Outputs: SDA							
12	Data Setup Time	t_{SU}	Setup time from command receipt to ready to transmit	0	—	0.4	s
I^2C Addressing							
MPL115A2 uses 7-bit addressing, does not acknowledge the general call address 0000000. Client address has been set to 60h or 1100000.							

11 Package outline



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TITLE: LGA 8 I/O, 3 X 5 X 1.25 PITCH, SENSOR 1.2MAX MM PKG	DOCUMENT NO: 98ASA10829D REV: B	
	STANDARD: NON–JEDEC	
	SOT1769–1 19 JAN 2016	

Figure 7. Package outline SOT1769-1 (TSON8)

NOTES:

1. ALL DIMENSIONS IN MILLIMETERS.

2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994

3. STYLE:

PIN 1: VDD	PIN 5: CS
PIN 2: CAP	PIN 6: DOUT
PIN 3: GND	PIN 7: DIN
PIN 4: SHDN	PIN 8: SCLK

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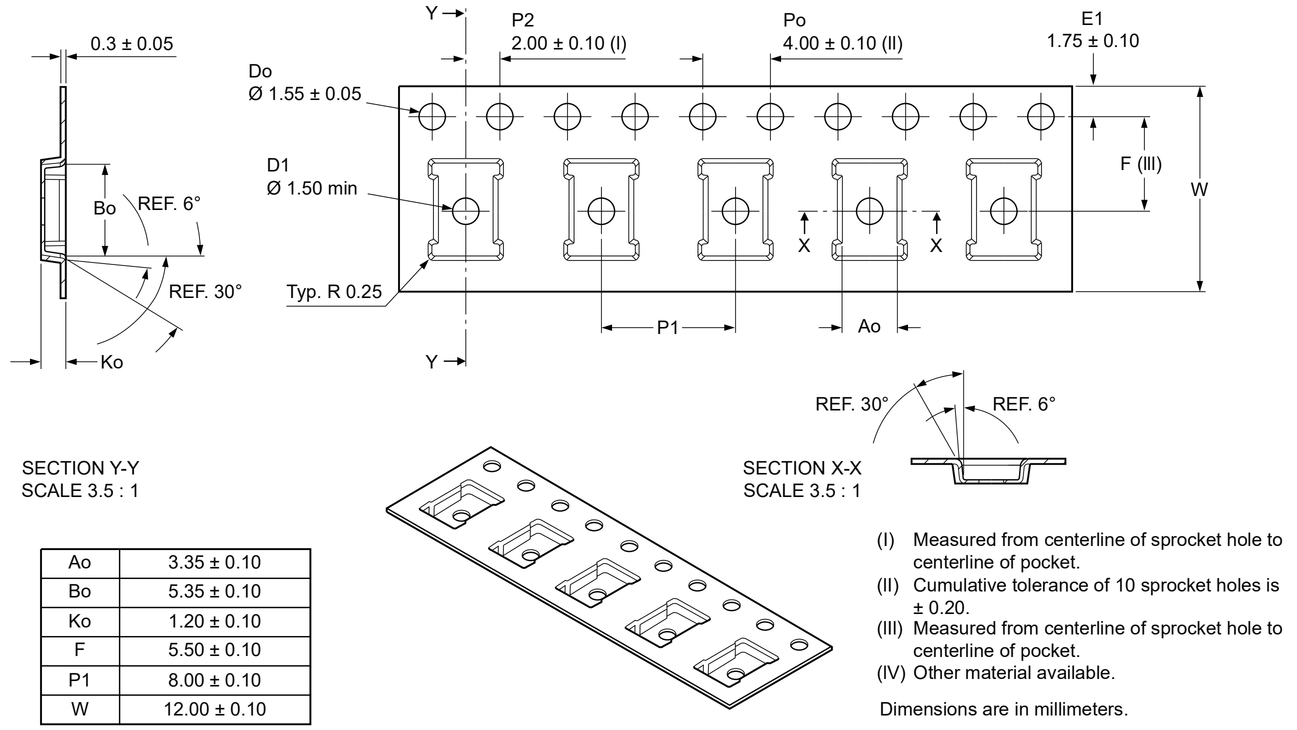
TITLE: LGA 8 I/O, 3 X 5 X 1.25 PITCH SENSOR 2.0MM PKG	DOCUMENT NO: 98ASA10829D	REV: B
	STANDARD: NON-JEDEC	
	SOT1769-1	19 JAN 2016

Figure 8. Package outline notes SOT1769-1 (TSON8)

12 Packing information



Ao	3.35 ± 0.10
Bo	5.35 ± 0.10
Ko	1.20 ± 0.10
F	5.50 ± 0.10
P1	8.00 ± 0.10
W	12.00 ± 0.10

(I) Measured from centerline of sprocket hole to centerline of pocket.
(II) Cumulative tolerance of 10 sprocket holes is ± 0.20.
(III) Measured from centerline of sprocket hole to centerline of pocket.
(IV) Other material available.

Dimensions are in millimeters.

aaa-044107

Figure 9. LGA (3 x 5) embossed carrier tape dimensions

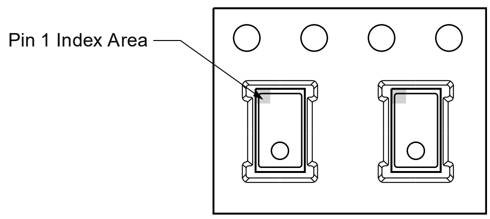


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Figure 10. Device orientation in chip carrier

13 Soldering

1. Use SAC solder alloy, Sn-Ag-Cu, with a melting point of about 217 °C. NXP recommends using SAC305, Sn-3.0 wt.% Ag-0.5 wt.% Cu.
2. Reflow
   - Ramp up rate: 2 °C/s to 3 °C/s.
   - Preheat flat (soak): 110 s to 130 s.
   - Reflow peak temperature: 250 °C to 260 °C (depends on exact SAC alloy composition).
   - Time above 217°C: 40 s to 90 s (depends on board type, thermal mass of the board/quantities in the reflow).
   - Ramp down: 5 °C/s to 6 °C/s.
   - Using an inert reflow environment (with O_2 level about 5 ppm to 15 ppm).

Note: *The stress level and signal offset of the device also depends on the board type, board core material, board thickness, and metal finishing of the board.*

Refer to NXP application note AN3150, Soldering Recommendations for Pressure Sensor Devices for any additional information.

14 Soldering/landing pad information

The LGA package is compliant with the RoHS standard. NXP recommends using a no-clean solder paste to reduce cleaning exposure to high pressure and chemical agents that can damage or reduce life span of the Pressure sensing element.

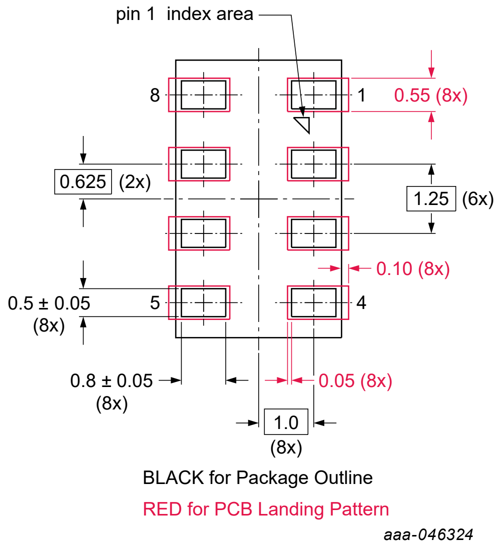

Figure 11. Recommended PCB landing pattern

15 Revision history

Table 11. Revision history

Document ID	Release date	Description
MPL115A2 v.10.1	17 May 2024	• MPL115A2 v.11 supercedes MPL115A2 v.10. • MPL115A2 v.11 is a product data sheet, updated the document status terminology from the former "Technical data" status to "Product data sheet" status.. • Inserted an image on the cover page. • Performed minor grammatical and typographical corrections throughout. • Updated all images to conform to NXP image standards. • Changed all references of "slave" to "client" to conform to the NXP inclusive language intiative. • Updated the document formatting, revision history and legal information sections to comply with new NXP documentation guidelines. • Section 4, Table 2, removed the row for MPL115A2 with the "Tray" package option. • Section 12, Figure 9, revised dimension "T" from "0.25 ± 0.05" to "0.3 ± 0.05".
MPL115A2 v.10	10 October 2017	• MPL115A2 v.10 supercedes MPL115A2 v.9. • MPL115A2 v.10 is a product data sheet. • The format of this data sheet has been redesigned to comply with the new identity guidelines of NXP Semiconductors. • Legal texts have been adapted to the new company name where appropriate. • Removed the first paragraph of Section 7. • Added Section 7.1 and Section 7.2 in Section 7 "Handling and board mount recommendations" • Updated Figure 7. No technical changes.
MPL115A2 v.9	October 2012	• MPL115A2 v.9 supercedes MPL115A2 v.8. • MPL115A2 v.9 is a product data sheet. • Changed Example Binary format definitions b1 signed From: 7 To: 13, added F_{11} to Coeff b1, b2, and c12 on page 6. • Removed MPL115A2T2 from ordering table.
MPL115A2 v.8	June 2012	• MPL115A2 v.8 is a product data sheet. • MPL115A2 v.8i replaces earlier versions of this data sheet. • Updated graphic on page 1, Section 2.2 Operating Characteristics: Ref 7: Conversion Time: changed Typ from 3.0 to 1.6, Section 3.0 Overview of Functions/Operation: Reading Coefficient Data deleted statement that reading of coefficients may be executed only once, Table 2: added Size (bits) column in table, added new Section 3.4 I^2C Device Read/ Write Operations

Legal information

Data sheet status

Document status[1][2]	Product status[3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.
[2] The term 'short data sheet' is explained in section "Definitions".
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