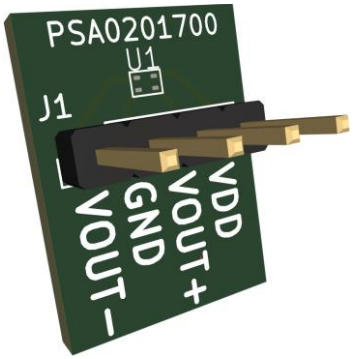


Data Sheet PSA0201700-EB Demonstration Board

PUI Audio's PSA0201700-EB-EB pressure sensor demonstration board features the PUI Audio PSA0201700-EB analog output gauge pressure sensor. The PSA0201700-EB features a 0kPa to 700kPa input pressure range.

The PSA0201700-EB features a high-linearity pressure sensor that is factory calibrated.

The board features a small size of 16.0mm x 12.0mm, 1.8V to 5.4V power supply voltage range, and header pins for easy design prototype development.

Features:

- 0kPa to 700kPa input pressure range
- 0.12mV/Pa sensitivity
- 0.01%FS/°C temperature coefficient
- Guage sensor
- 3.3VDC nominal power supply voltage
- Board's dimensions: 23.0mm x 23.0mm

Electrical Characteristics

Absolute Maximum Ratings (T_A = 25°C, unless otherwise specified.)

Parameter	Conditions	Minimum	Typical	Maximum	Unit
V_{DD}		-0.3		15	Volts
Output Pins		-0.3		V_{DD}+0.3	Volts
Burst Pressure				7000	kPa
ESD Class	Human Body Model	-2000		2000	Volts
Storage Temperature		-40		125	°C

Performance Characteristics (V_{DD} = 5.0V±0.005, T_A = 25±1°C, RH = 50±10%)

Parameters	Conditions	Minimum	Typical	Maximum	Unit
V_{DD}		1.8	3.3	5.4	Volts
I_{DD}			1.0	3.0	mA
Operating Temperature		-40		125	°C
Wheatstone Bridge Resistor Element Values		8		10	kΩ
Pressure Characteristics					
Pressure Range		0		700	kPa
Sensitivity		0.0624	0.078	0.0936	mV/kPa
Linearity	-20°C ≤ T_A ≤ 85°C		0.15		%FS
Overload Pressure	Note 1			2100	kPa
Output Offset	Pressure = 0Pa	-10		10	mV
Output Offset Temperature Drift Coefficient (TCO)			0.01		%FS/°C
Sensitivity Temperature Drift Coefficient (TCS)			-0.20		%FS/°C

Note 1: Pressures above this maximum will damage the sensor including the internal pressure sensitive film and the MEMS structures.

PSA0201700-EB Digital Output Pressure Sensor Pin Descriptions

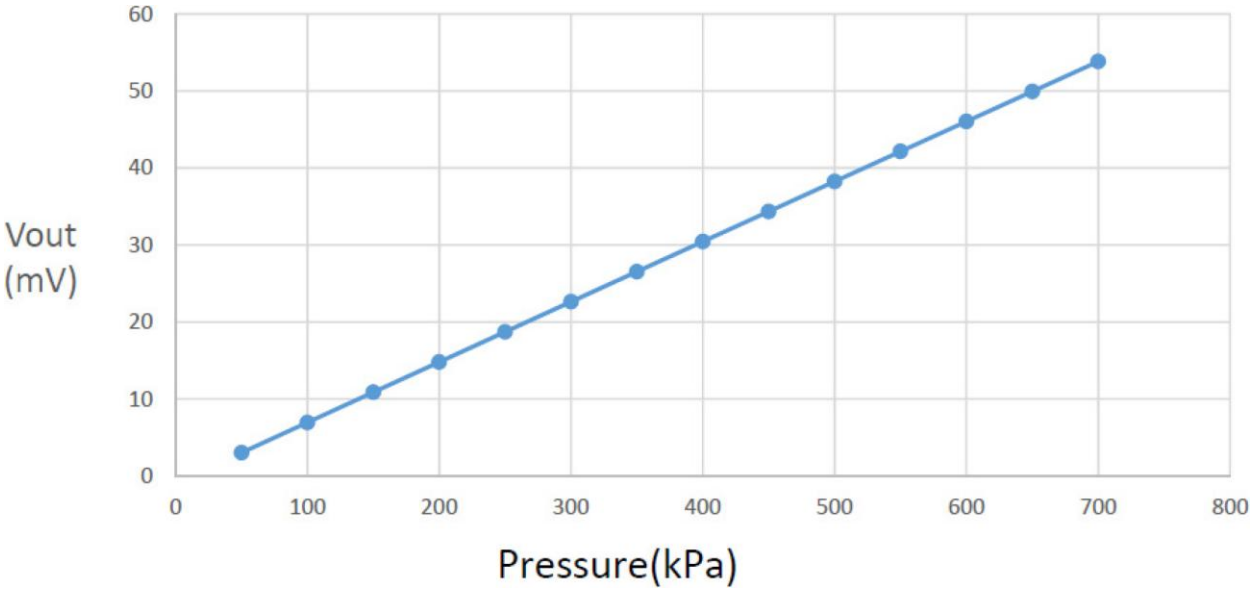
Pin Definitions

PIN	1	2	3	4
Pin Definition 1	V_{DD}	V_0^-	V_0^+	GND
Pin Definition 2	GND	V_0^+	V_0^-	V_{DD}
Pin Definition 3	V_0^+	GND	V_{DD}	V_0^-
Pin Definition 4	V_0^-	V_{DD}	GND	V_0^+

Signal Definitions

Symbol	V_{DD}	GND	V_0^+	V_0^-
Pin Definition	Positive Power Supply Voltage	Power Supply Ground	Positive Analog Output Voltage, Referenced to GND	Analog Output Voltage GND Reference

Typical Performance Curve (V_{DD} = 3.3V, T_A = 25°C.)



Circuit Description

Referring to Figure 1, the PSA0201700-EB-EB is designed for a nominal 3.3V power supply voltage, applied through connector J1's pin 1 and GND on J1's pin 4. The gauge sensor's output is found between J1's pin 2 and J1's pin 3.

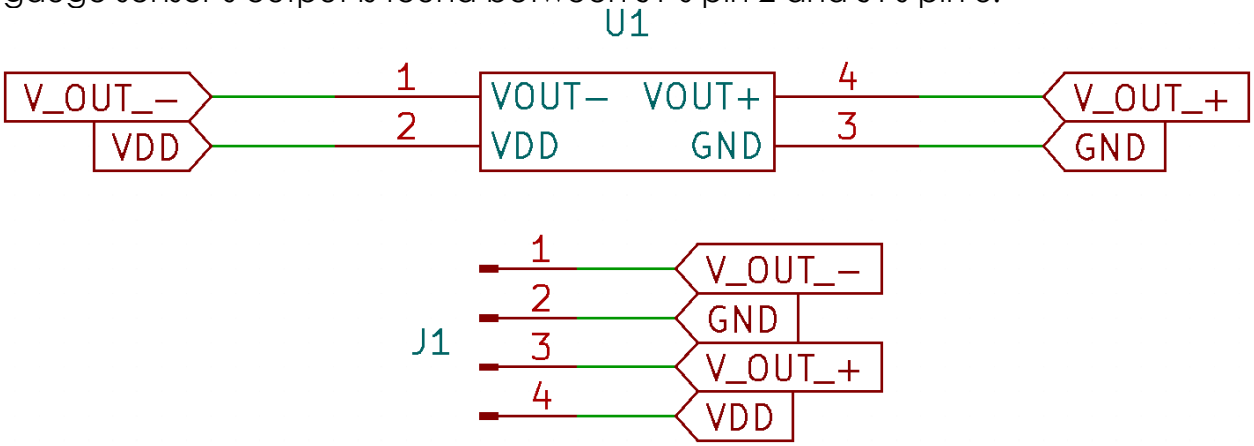
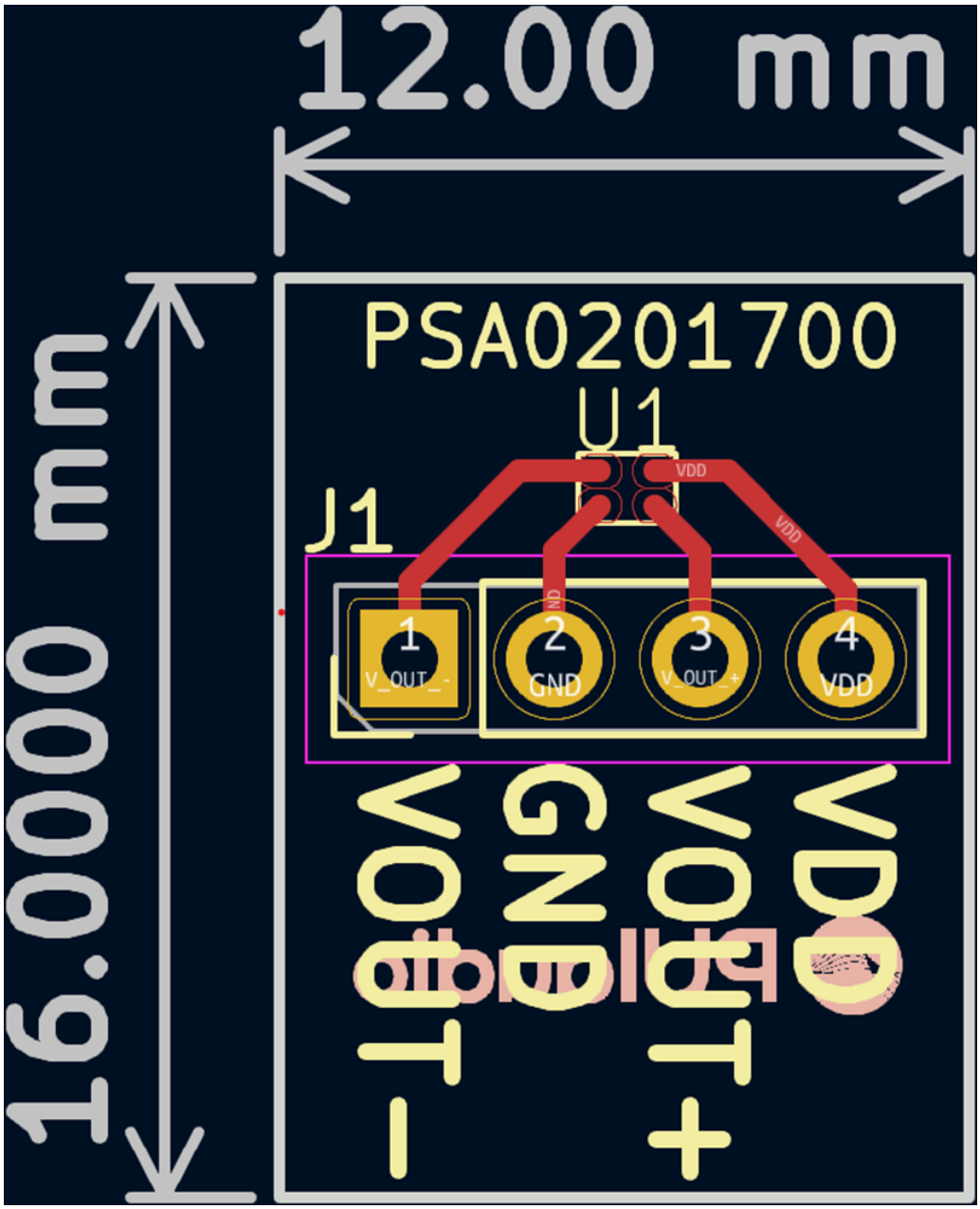


Figure 1. PSA0201700-EB-EB schematic.

Dimensions



Packaging

1 tray = 42 pieces
15 trays = 630 pieces
630 total pieces

Specifications Revisions

Revision	Description	Date	Approved
A	Datasheet released from Engineering	09/05/2025	KH

Note:
1. Unless otherwise specified:
   A. All dimensions are in millimeters.
   B. Default tolerances are ±0.5mm and angles are ±3°, unless otherwise specified.
2. Specifications subject to change or withdrawal without notice.