

HPSA 1100 Pressure Transducer

General description

Pressure transducer model HPSA 1100 is a pressure sensing device with close bridge configuration for SMT mounting on PCB board or other substrate. High performance and stability enable use of this transducer in many applications, and with its compact and handy design is very suitable for users where extreme low space are available. This transducer is suitable for any type of application with dry air or non-corrosive gases.

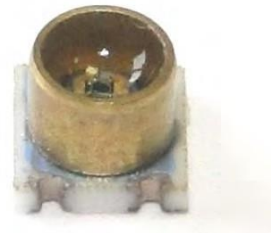
The model HPSA 1100 is available in absolute pressure configuration for pressure ranges 1bar, 4 bar and 7 bar absolute.

Features

- ULTRA small dimensions: **3.5 x 3.5 mm**
- Low cost
- Easy to use package – SMD (surface mount device)
- Compact and light weight
- High sensitivity
- High-performance, stable silicon chip and package
- Automotive temperature operating range (-40 to 130°C)
- Absolute configuration

Applications

- TPMS (Tire Pressure Monitoring System)
- Barometric pressure sensing
- Engine control
- Home appliances
- Pressure monitoring
- Process control



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Types overview

 $T_{AMB} = 25^{\circ}\text{C}$
 $V_{CC} = 5\text{ V}$, unless otherwise noted

Pressure range	1 bar (15 psi)	4 bar (60 psi)	7 bar (100 psi)
ID group	HPSA 1100-001B-A	HPSA 1100-004B-A	HPSA 1100-007B-A
$V_{OUT} (FS)$ ³⁾	60...120 mV	80...200 mV	80...200 mV
$V_{OFS(MAX)}$ ³⁾⁴⁾	±30 mV	±30 mV	±30 mV
Temp. range	Operating: -40°C to 130°C Storage: -40°C to 130°C		
Over pressure ¹⁾	3 bar	7 bar	21 bar
Burst. Pressure ²⁾	5 bar	12 bar	35 bar

Performance characteristics

 $T_{AMB} = 25^{\circ}\text{C}$
 $V_{CC} = 5\text{ V}$, unless otherwise noted

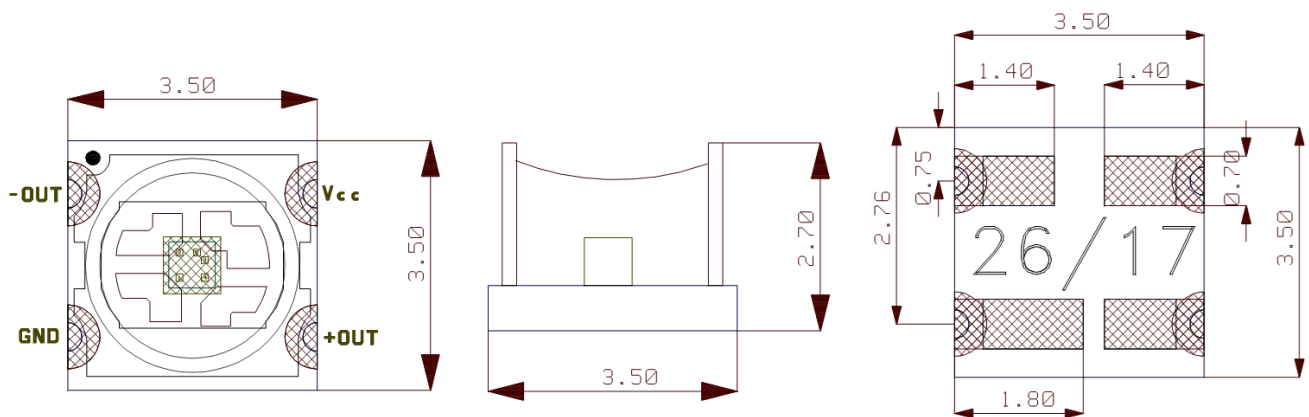
Parameter	Min.	Type	Max.	Unit
Excitation Current		1	3	mA
Excitation Voltage	1	5	6	V
Bridge resistance	2.5	3.3	4.2	kΩ
TC Span (0-70°C)	-2500	-2200	-1900	ppm/°C
TC Offset (0-70°C)	-15	-5	5	uV/V/°C
TC Resistance (0-70°C)	2100	2400	2700	%FS/°C
Pressure hysteresis & nonlinearity ⁵⁾		0.2	0.5	%FS
Media compatibility	See spec. notes ⁶⁾			

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Specification notes

- 1) Over pressure is the maximum pressure which may be applied without causing damage to the sensing element.
- 2) Burst pressure is the maximum pressure which may be applied without causing leakage damage to the sensing element.
- 3) Analog output signal is ratiometric to power supply V_{cc} .
- 4) Offset voltage is the voltage output at zero pressure.
- 5) Nonlinearity is defined as the BFSL (best fit straight line) across entire pressure range.
- 6) Dry air and all noncorrosive gases to epoxy, gold, ceramics Al_2O_3 , Sil-gel, stainless steel.

Outline dimensions



Ordering guide

Sensor type	Pressure range	Pressure type
HPSA 1100	001B	A
	004B	
	007B	

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