



- Suitable for harsh environment and wet-wet applications
- Single 5 V supply voltage
- Wide compensated range
- High-Performance OEM applications
- RoHS compliant

The Pressure Transducer model HPSP 7000 is a new generation of ceramic pressure sensors made with low-temperature co-fired ceramic (LTCC) technology and a patented sensor-construction solution. The LTCC

material is compatible with many types of aggressive media like water, hydraulic oils, diesel and others. High performance and accuracy in a compact housing makes the HPSP 7000 suitable for OEM users.

This Transducer can for example be used in the following applications:

Leak detection

Process control

Level control systems

HVAC

Measure pressure of gases & liquids

Instrumentation & measuring equipment

Low pressure range

Pressure range	100 mbar	350 mbar	1 bar	2 bar	4 bar	10 bar
Pressure types	differential					
V _{out}	0.5 to 4.5 V					
Operating Temp	-25 to 85° C					
Compensated Temp.	0 to 70° C					
Storage Temp	-40 to 125° C					
Over pressure	300 mbar	800 mbar	2 bar	4 bar	8 bar	20 bar
Burst pressure	400 mbar	1200 mbar	2.2 bar	4.5 bar	9 bar	22 bar

Performance characteristics

TAMB = 25° C

Vcc = 5 V, unless otherwise noted



Parameter	Unit	Min.	Typ.	Max.
Power supply				
Supply voltage V_{cc}	V	4.75		5.25
Current consumption I_{cc}	mA		3.5	6.5
Analog output (pressure)				
Offset voltage V_o	V		0.50	
Full scale output (FSO) V_{FS}	V		4.50	
Full scale span (FSS) V_{FSO}	V		4.00	
Digital output (pressure)				
Offset voltage V_O	counts		3277	
Full scale output (FSO) V_{FS}	counts		29491	
Full scale span (FSS) V_{FSO}	counts		26214	
Accuracy (pressure, offset, span) @ 25°C	%FSO		±0.5	±1
Total accuracy (pressure) @ 0 to 70° C	%FSO		±0.75	±2
Resolution				
A/D converter	bit			15
D/A converter	bit		11	
Response time	ms		1	
Repeatability	%FSO		±0.1	
Nonlinearity / pressure hysteresis (BFSL)	%FSO		±0.1	±0.3
Load resistance	k	2		∞
Media compatibility	see spec. note			
Weight	g		9	

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} , digital signal is not ratiometric to the power supply.
- 4) Offset voltage is the voltage output at zero pressure.
- 5) Full scale output is the voltage output at full pressure range.
- 6) Full scale span is the algebraic difference between the output at full scale pressure range and offset.
- 7) Accuracy of offset and span includes all effects (nonlinearity, pressure hysteresis and repeatability) at room temperature and represents maximum deviation of transducer signal from ideal characteristic.
- 8) Total accuracy includes all effects (offset, span, nonlinearity, pressure hysteresis and repeatability) included with all temperature effects of offset and span. It describes overall error and represents maximum deviation of transducer signal from ideal characteristic in compensated temperature range from 0 to 70°C.
- 9) Repeatability is defined as typical deviation of the output signal after 10 pressure cycles.
- 10) Nonlinearity is defined as the BFSL (best fit straight line) across entire pressure range
- 11) Media compatibility on pressure port P1, P2: noncorrosive gases and fluids to epoxy, LTCC ceramics and LCP plastics.

Ordering information

(Please use the characters in the chart below to create your product code)

Sample CodeHPSD7000 - 020M - D - B - P - S

Pressure range

See table below*

Pressure Type

D differential

Pressure direction

O 0 to press range

B bidirectional

Pressure Port

P Positive Pressure on P1

Contact Pins

S Straight

C Curved

Pressure Range						
Unit	100 mbar	350 mbar	1 bar	2 bar	4 bar	10 bar
Order Code	010M	350M	001B	002B	004B	010B

If you require a customized solution for your program contact our sales team.