Preliminary Datasheet

Ceramic Pressure Transducer HPSA 9000

General description

Ceramic pressure transducer HPSA 9000 is an OEM **fi18mm monolithic** ceramic pressure sensing device designed based on **piezo-resistive technology** and **Al2O3 96% ceramics**.

This transducer was specially designed to provide stable output signal (offset and span) over wide temperature range from -40 to 150°C with **harsh media resistance** characteristic (aggressive gases, most solvents, acids, ..). Thick film resistors printed on substrate are individually laser trimmed to provide temperature zero calibration. Pressure transducer is intended for use with harsh media environment.

HPSA 9000 is designed for constant voltage excitation for pressure ranges from 2bar to 100 bar.

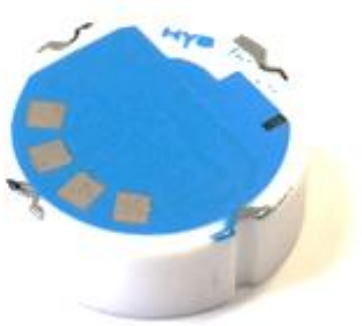
Features

- Harsh media resistance
- Standard fi18 mm
- Non-compensated mV output
- Constant voltage excitation
- Wide temperature range -40 to 150°C
- Zero calibration
- Gage configuration
- High pressure ranges from 2bar to 100bar
- Excellent long-term stability

Applications

- Harsh media applications
- HVAC
- Process control
- Leak detection
- Pneumatic controls

RoHS COMPLIANT



HYB emotional electronics

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Available types overview

T_{AMB}=25°C, Vs = 5 V (unless otherwise stated)

Pressure range	**2 bar**	**5 bar**	**10 bar**	**50 bar**	**100 bar**
ID group	HPSA 9000-002B-G	HPSA 9000-005B-G	HPSA 9000-010B-G	HPSA 9000-050B-G	HPSA 9000-100B-G
V_{OUT} [3]	17±6 mV	20±6 mV	20±6 mV	20±6 mV	20±6 mV
$V_{OFS(MAX)}$; 25°C [3]	±2 mV	±2 mV	±2 mV	±2 mV	±2 mV
Temp. ranges	Operating/Storage: -40 to 150°C				
Over pressure [1]	4 bar	10 bar	20 bar	100 bar	200 bar
Burst pressure [2]	6 bar	15 bar	30 bar	150 bar	300 bar

Performance characteristics

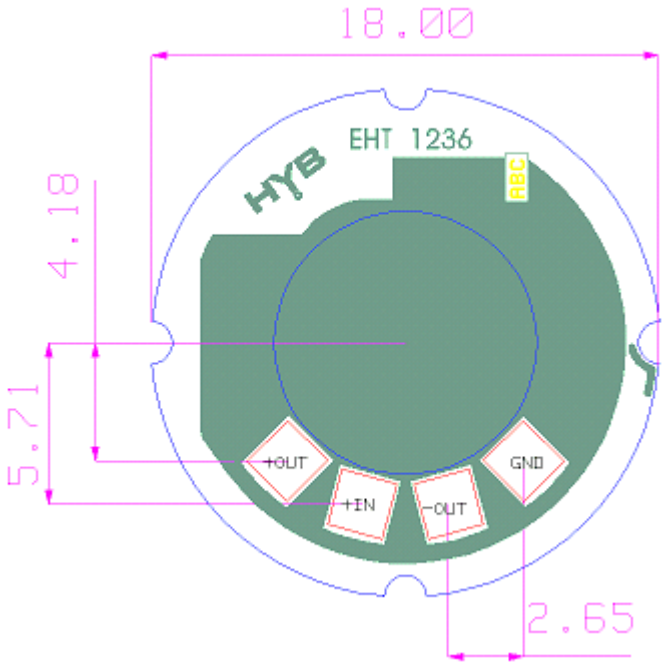
T_{AMB}=25°C, V_S= 5 V (unless otherwise noted)

Parameter	**Min.**	**Typ.**	**Max.**	**Unit**
Input voltage (Vs)		5	30	V
Thermal error of offset (-40 to 125°C) [4), 6)]		±0,015	±0,030	%FS/K
Thermal error of span (-40 to 125°C) [5), 6)]		±0,015	±0,030	%FS/K
Combined linearity and hysteresis [8)]		±0,03	±0,25	%FS
Repeatability		±0,05	±0,20	%FS
Input impedance		10		kΩ
Output impedance		10		kΩ
Response time		500		µs
Media compatibility	See spec. note [9)]			
Humidity limits (non-condensing)	0…95			%RH
Weight		4		g

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) *Output signal is ratiometric to input supply voltage Vs.*
4) *Offset voltage is the voltage output at zero pressure.*
5) *Full scale span (FS) is the voltage output at full pressure range.*
6) *Thermal error of span and offset represents the deviation of transducer signal (span and offset) through whole temperature range from 0 to 125°C.*
7) *Shift is within in the first hour of excitation.*
8) *Nonlinearity is defined as the BFSL (best fit straight line) across entire pressure range.*
9) *Media compatibility: all materials compatible with 96% Al2O3*

Outline dimensions & Pinout



Ordering guide

Transducer type	Pressure range	Pressure type
HPSA 9000	002B	G
	005B	
	010B	
	050B	
	100B	

Note: Other configurations possible on special request!

Pressure type	
G	Gage

Pressure range	
002B	2 bar
005B	5 bar
010B	10 bar
050B	50 bar
100B	100 bar