FEATURES

- **10 mbar to 10 bar, 4 inH_2O to 150 psi, differential pressure**
- **Precision temperature compensated**
- **Calibrated offset and span**
- **RoHS compliant**
- **Quality Management System according to ISO 13485:2003 and ISO 9001:2008**

MEDIA COMPATIBILITY

Non-corrosive, non-ionic working fluids such as clean dry air, dry gases and the like.

The media wetted materials are:

port 1: front side of silicon sensor chip, glass filled polyamide, RTV, silgel (for devices from 5 psi), ceramic (Al_2O_3)

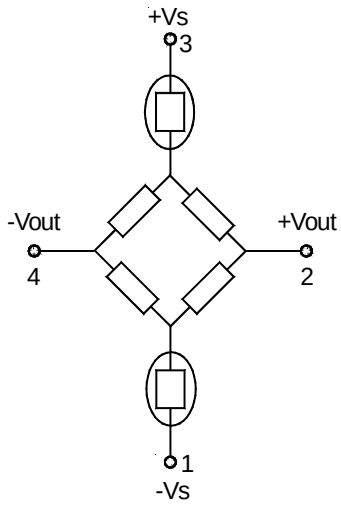
port 2: silicon sensor chip, glass filled nylon, RTV, ceramic (Al_2O_3)

SPECIFICATIONS

Maximum ratings

Supply voltage	3 to 16 V
Temperature limits	
Compensated	
HROM010..., HROH004...	0 ... 50 °C
all others	0 ... 70 °C
Operating	-25 ... 85 °C
Storage	-40 ... 125 °C
Lead temperature (soldering 5 seconds)	315 °C
Humidity limits (non-condensing)	0 ... 95 %RH
Common mode pressure	50 psig

EQUIVALENT CIRCUIT



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PRESSURE SENSOR CHARACTERISTICS (V_S = 12 V, T_A = 25°C, pressure applied to port P1)

HRO...P devices (Prime Grade)

Part no.	Operating pressure	Proof pressure[1]	Burst pressure[2]	Full scale span[3]		
				Min.	Typ.	Max.
HROM025...P	25 mbar	200 mbar	350 mbar	19.6 mV	20.1 mV	20.6 mV
HROM050...P	50 mbar	250 mbar	750 mbar	12.9 mV	13.05 mV	13.2 mV
HROM100...P	100 mbar	500 mbar	1.5 bar	25.8 mV	26.1 mV	26.4 mV
HROM250...P	250 mbar	1 bar	1.7 bar	42.8 mV	43.5 mV	44.2 mV
HROB001...P	1 bar	3 bar	5 bar	86.1 mV	87.0 mV	88.0 mV
HROB002...P	2 bar	6 bar	10 bar	86.1 mV	87.0 mV	88.0 mV
HROB005...P	5 bar	17 bar	27 bar	71.8 mV	72.5 mV	73.2 mV
HROB010...P	10 bar	17 bar	27 bar	86.1 mV	87.0 mV	88.0 mV
HROH010...P	10 inH_2O	3 psi	5 psi	19.5 mV	20 mV	20.5 mV
HROP001...P	1 psi	3 psi	5 psi	17.8 mV	18 mV	18.2 mV
HROP005...P	5 psi	15 psi	25 psi	59 mV	60 mV	61 mV
HROP015...P	15 psi	45 psi	75 psi	89 mV	90 mV	91 mV
HROP030...P	30 psi	90 psi	150 psi	89 mV	90 mV	91 mV
HROP060...P	60 psi	180 psi	300 psi	89 mV	90 mV	91 mV
HROP100...P	100 psi	250 psi	400 psi	99 mV	100 mV	101 mV
HROP150...P	150 psi	250 psi	400 psi	89 mV	90 mV	91 mV

HRO...H devices (High Grade)

Part no.	Operating pressure	Proof pressure[1]	Burst pressure[2]	Full scale span[3]		
				Min.	Typ.	Max.
HROM010...H	10 mbar	200 mbar	350 mbar	23.1 mV	25.1 mV	27.1 mV
HROM025...H	25 mbar	200 mbar	350 mbar	19.1 mV	20.1 mV	21.1 mV
HROM050...H	50 mbar	250 mbar	750 mbar	12.3 mV	13.05 mV	13.8 mV
HROM100...H	100 mbar	500 mbar	1.5 bar	24.6 mV	26.1 mV	27.6 mV
HROM250...H	250 mbar	1 bar	1.7 bar	41.3 mV	43.5 mV	45.7 mV
HROB001...H	1 bar	3 bar	5 bar	82.2 mV	87.0 mV	91.9 mV
HROB002...H	2 bar	6 bar	10 bar	82.2 mV	87.0 mV	91.9 mV
HROB005...H	5 bar	17 bar	27 bar	68.9 mV	72.5 mV	76.1 mV
HROB010...H	10 bar	17 bar	27 bar	82.2 mV	87.0 mV	91.9 mV
HROH004...H	4 inH_2O	3 psi	5 psi	23 mV	25 mV	27 mV
HROH010...H	10 inH_2O	3 psi	5 psi	19 mV	20 mV	21 mV
HROP001...H	1 psi	3 psi	5 psi	17 mV	18 mV	19 mV
HROP005...H	5 psi	15 psi	25 psi	57 mV	60 mV	63 mV
HROP015...H	15 psi	45 psi	75 psi	85 mV	90 mV	95 mV
HROP030...H	30 psi	90 psi	150 psi	85 mV	90 mV	95 mV
HROP060...H	60 psi	180 psi	300 psi	85 mV	90 mV	95 mV
HROP100...H	100 psi	250 psi	400 psi	95 mV	100 mV	105 mV
HROP150...H	150 psi	250 psi	400 psi	85 mV	90 mV	95 mV

PERFORMANCE CHARACTERISTICS

(V_S = 12 V, T_A = 25°C, pressure applied to port P1)

HRO...P devices (Prime Grade)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset		-0.5	0	+0.5	mV
Combined non-linearity and hysteresis[4]			±0.25	±0.5	%FSS
Temperature effects (0...70 °C)[5]	Span			±1.0	%FSS
	Offset			±0.5	mV
Input resistance		5			kΩ
Output resistance			3		kΩ
Response time (10 to 90 %FSS)	25 mbar/10 inH_2O devices		500		µs
	all other devices		100		µs
Common mode voltage[6]			6		V

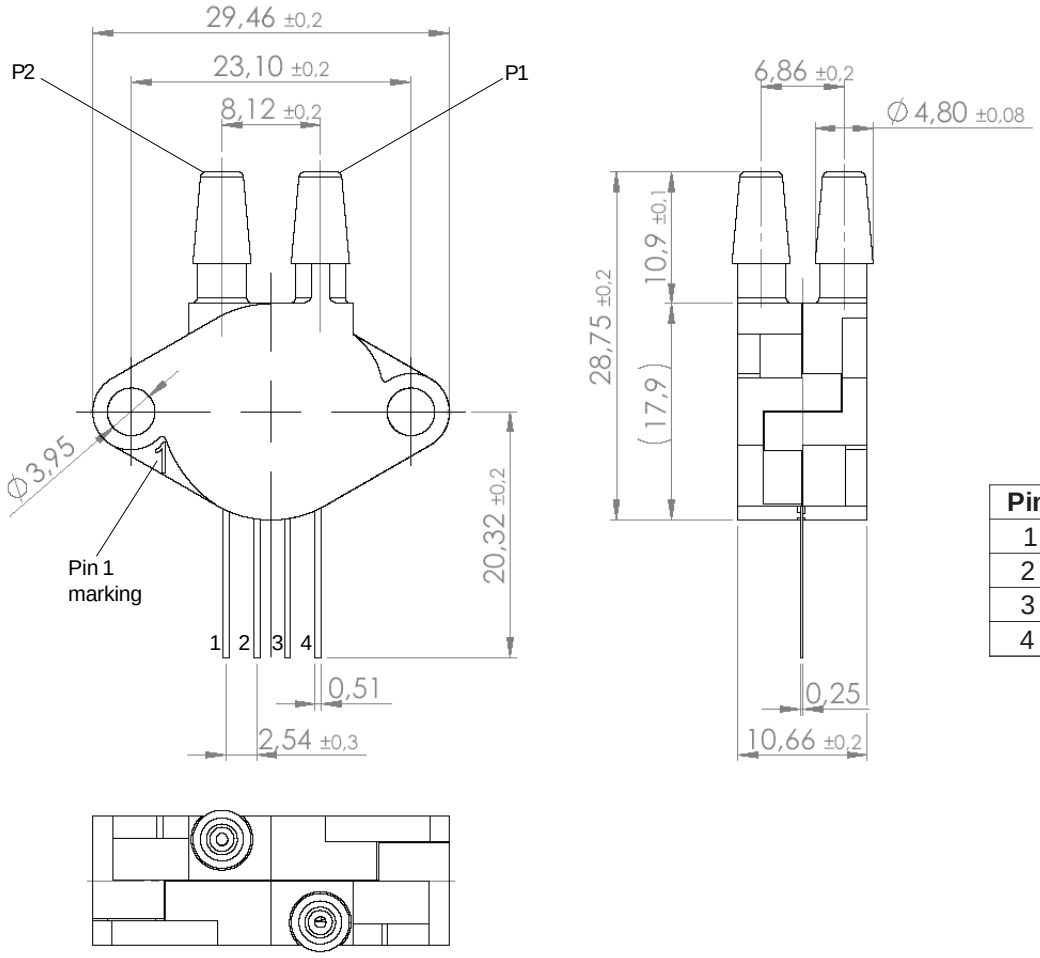
HRO...H devices (High Grade)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	10 mbar/4 inH_2O devices	-1.0	0	+1.0	mV
	all other devices	-0.5	0	+0.5	
Combined non-linearity and hysteresis[4]			±0.25	±1.0	%FSS
Temperature effects (0...70 °C)[5]	Span			±2.0	%FSS
	Offset			±1.0	mV
Input resistance		5			kΩ
Output resistance			3		kΩ
Response time (10 to 90 %FSS)	devices up to 25 mbar/10 inH_2O		500		µs
	all other devices		100		µs
Common mode voltage[6]			6		V

Specification notes:

1. Proof pressure is the maximum pressure which may be applied without causing durable shifts of the electrical parameters of the sensing element.
2. Burst pressure is the maximum pressure which may be applied without causing damage to the sensing element or leaks from the housing.
3. Full scale span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure. The span is ratiometric to the supply voltage.
4. Non-linearity refers to the Best Straight Line fit measured for offset pressure, full-scale pressure and ½ full-scale pressure.
5. Shift is relative to 25 °C. The HROM010.../HROH004... have a compensated temperature range from 0...50 °C.
6. This is the common-mode voltage of the output arms (pins 2 and 4) for V_S = 12 V.

OUTLINE DRAWING AND ELECTRICAL CONNECTION



Pin	Connection
1	-Vs
2	+Vout
3	+Vs
4	-Vout

first angle projection

mass: approx. 5 g

dimensions in mm

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ORDERING INFORMATION

	Series	Pressure range		Pressure mode		Housing		Grade	
Options	HRO	M010*	10 mbar	D	Differential	TM	SIL, 2 ports top side	H	High
		M025	25 mbar					P	Prime
		M050	50 mbar						
		M100	100 mbar						
		M250	250 mbar						
		B001	1 bar						
		B002	2 bar						
		B005	5 bar						
		B010	10 bar						
		H004*	4 inH_2O						
		H010	10 inH_2O						
		P001	1 psi						
		P005	5 psi						
		P015	15 psi						
		P030	30 psi						
		P060	60 psi						
		P100	100 psi						
		P150	150 psi						
		* only available as H-grade							
Example:	HRO	M100		D		TM		P	

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LGA InterCert
Certified Quality System
EN ISO 13485:2003+AC:2009
DIN EN ISO 9001:2008