



LBA Series

Low differential pressure sensors

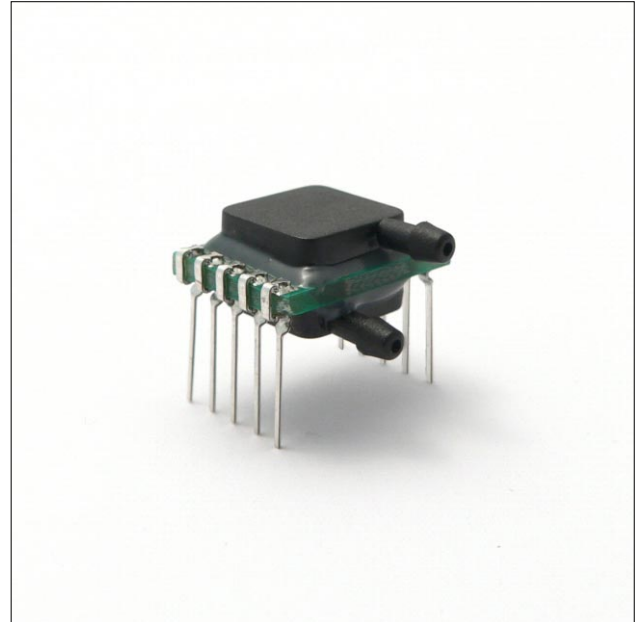
PRELIMINARY

FEATURES

- Pressure ranges 250 and 500 Pa (1 and 2 inch H₂O)
- Pressure sensor based on thermal micro-flow measurement
- Calibrated and temperature compensated
- Linear 0.5...4.5 V output
- High flow impedance
- RoHS compliant
- Sensortronics PRO services

MEDIA COMPATIBILITY

Dry air and other non-corrosive gases



SPECIFICATIONS

Maximum ratings

Supply voltage V_s 4.75 ... 5.25 V_{DC}

Output current 1 mA

Lead specifications

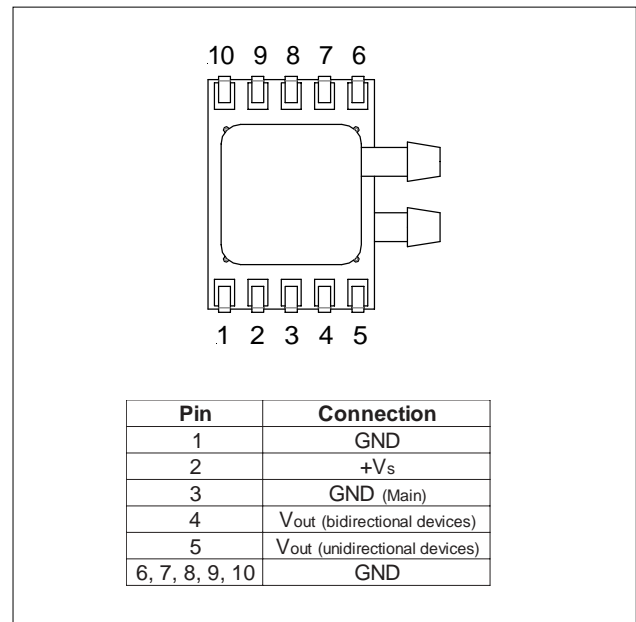
Average preheating temperature gradient 2.5 K/s
Soak time ca. 3 min
Time above 217°C 50 s
Time above 230°C 40 s
Time above 250°C 15 s
Peak temperature 260°C
Cooling temperature gradient -3.5 K/s

Temperature ranges

Compensated 0 ... +70 °C
Operating -20 ... +80 °C
Storage -40 ... +80 °C

Humidity limits (non-condensing) 0 ... +85 %RH

ELECTRICAL CONNECTION





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PRESSURE SENSOR CHARACTERISTICS

| Part no. | Operating pressure |
|-------------|--|
| LBAS250U... | 0...250 Pa/0...2.5 mbar (1 inch H ₂ O) |
| LBAS250B... | 0...±250 Pa/0...±2.5 mbar (±1 inch H ₂ O) |
| LBAS500U... | 0...500 Pa/0...5 mbar (2 inch H ₂ O) |
| LBAS500B... | 0...±500 Pa/0...±5 mbar (±2 inch H ₂ O) |

PERFORMANCE CHARACTERISTICS

(V_S=5.0 V_{DC}, T_A=20°C, P_{Abs}=1 bara, output signal is **ratiometric** to V_S for all LBA...8... devices and **non ratiometric** to V_S for all LBA...6... devices)

| Characteristics | Min. | Typ. | Max. | Unit |
|----------------------------------|-----------|--------------------------------|--------------------------------|------|
| Non-linearity | | ±(1.5 % of reading + 0.2 %FSO) | ±(2.0 % of reading + 0.2 %FSO) | |
| Thermal effects | Offset | 5...55 °C | ±25 | mV |
| | | 0...70 °C | ±40 | |
| | Span | 5...55 °C | ±1.75 | % |
| | | 0...70 °C | ±2.5 | |
| Total accuracy ¹ | 5...55 °C | | ±(1.5 % of reading + 1.5 %FSS) | |
| | 0...70 °C | | ±(3.5 % of reading + 1.5 %FSS) | |
| Offset warm-up shift | | ±1 | ±5 | mV |
| Current consumption (no load) | | 4 | 5 | mA |
| Response time (t ₆₃) | | 1-2 | | ms |

Unidirectional devices

| Characteristics | Min. | Typ. | Max. | Unit |
|-----------------------------------|------|------|------|------|
| Zero pressure offset ² | 0.47 | 0.50 | 0.53 | V |
| Full scale span | 3.94 | 4.00 | 4.00 | |
| Full scale output ² | | 4.50 | | |

Bidirectional devices

| Characteristics | Min. | Typ. | Max. | Unit |
|-----------------------------------|----------------------------|------|------|------|
| Zero pressure offset ² | 2.47 | 2.50 | 2.53 | V |
| Full scale span | 3.94 | 4.00 | 4.00 | |
| Output ² | at max. specified pressure | 4.50 | | |
| | at min. specified pressure | 0.50 | | |

Specification notes:

1. Total accuracy is the combined error from offset and span calibration, linearity, pressure hysteresis and temperature effects.
2. Min. and Max. values are calculated for 5...55 °C temperature range.

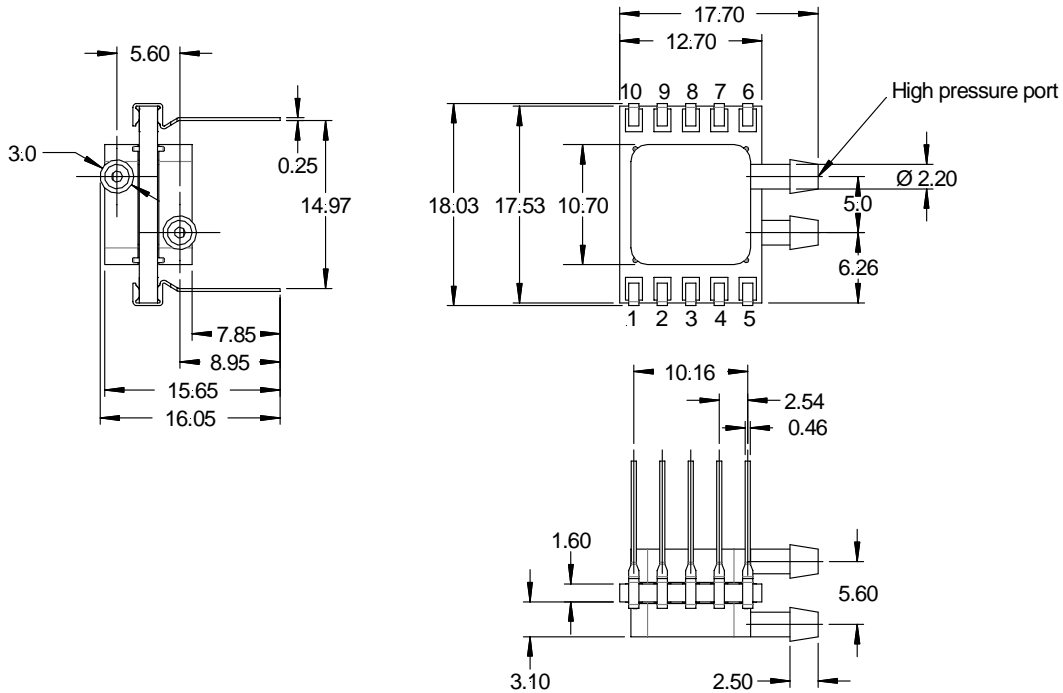


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PRELIMINARY

OUTLINE DRAWING



dimensions in mm

ORDERING INFORMATION

| Options | Series | Pressure range | Calibration | | Housing | | Output | | Grade | |
|-----------------|--------|---|-------------|---------------------|---------|---------------------------|--------|------------------------------|-------|----------|
| | LBA | S250 250 Pa (1 inch H ₂ O) | B | Bidirectional | F | DIP, 2 ports same side | 6 | 0.5...4.5 non ratiometric | S | Standard |
| | | S500 500 Pa (2 inch H ₂ O) | | U Unidirectional | | | 8 | 0.5...4.5 ratiometric | | |
| Example: | LBA | S250 | B | | F | | 8 | | S | |

Sensortech PRO services:

- Extended warranty period of 2 years
- Advanced logistics models for supply inventory and short delivery times
- Technical support through application engineers on the phone or at your site
- Fastest possible technical response for design and QA engineers
- ... plus other services on request

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