Gel-filled, ultra-compact, water resistant digital pressure and temperature sensor.

The MS5837-02BA is a gel-filled, ultra-compact, water resistant pressure and temperature sensor module optimized for consumer devices such as fitness trackers, drones and wearables.

**Overpressure:** 10 bar  
**Pressure:** 2000 mbar  
**Sensor Type:** Digital Pressure and Altimeter Sensor Modules  
**Type:** Absolute

**Optimized for consumer devices such as fitness trackers, drones and wearables the MS5837-02BA’s robust sensor package enables it to withstand harsh environments often encountered in these applications.**

This MEMS based sensor includes a high-linearity pressure sensor with an ultra-low power 24 bit digital output (I²C) and an altitude resolution at sea level of 13 cm. This enables high resolution measurements such as counting flights of stairs. This ultra-compact micro altimeter allows for design flexibility and is one of the smallest gel filled water resistant sensors in the market. The robust sensor package consists of ceramic and metal materials. The board level design delivers sensing accuracy for both pressure (±0.5mbar) and temperature (±2°C) measurements. Expanding on TE Connectivity’s (TE) MS5837 series of ultra-compact digital altimeters, this 2 bar models offer options for improved endurance in media environments and integrated shielding for reduced signal noise and interference. Our MS5837-02BA provides exceptional performance, reliability and accurate performance from a brand you can trust.
Applications

- Fitness Trackers
- Drones
- Wearables
- Bike Computers
- Mobile Altimeter/Barometer Systems
- E-cigarettes

Benefits

- Ceramic and metal package: 3.3 x 3.3 x 2.75mm
- High resolution module: 13 cm
- Supply voltage: 1.5 to 3.6 V
- Low power: 0.6 µA (standby ≤ 0.1 µA at 25°C)
- Integrated digital pressure sensor (24 bit ΔΣ ADC)
- I²C interface
- Operating range: 300 to 1,200 mbar, -20 to +85 °C
- No external components (internal oscillator)
- Water resistant sealing with 1.8 x 0.8mm O-ring
- High endurance option
- Shielded option
MS5837-02BA
PRESSURE AND
TEMPERATURE SENSOR

Take your devices to the next level with our MS5837-02BA digital pressure and temperature sensor module. This gel-filled, ultra-compact, water resistant sensor is optimized for consumer devices where sensor size and performance are critical.

APPLICATIONS

Drones
Wearables
Fitness Trackers
Bike Computers
Mobile Altimeter/Barometer

DESIGN

Ultra-compact
5.3 x 3.3 x 2.75mm
SMD Board Level
Water Resistant
FEATURES

- 24-Bit Digital Output
- I²C Interface
- Pressure Range: 2 bar
- Operating Temp: -20° to +85°C
- Pressure Accuracy: ±0.5 mbar
- Temp Accuracy: ±2°C
- Supply Voltage: 1.5 to 3.6 V
- High Resolution Module: 13 cm
### MS5837-02BA DIGITAL PRESSURE SENSOR

**TE Model #:** MS5837-02BA  
**TE Internal #:** CAT-BLPS0059

<table>
<thead>
<tr>
<th>Type</th>
<th>Absolute</th>
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</thead>
</table>

#### Electrical Characteristics

| Supply Voltage (V) | 1.5 - 3.6 |

#### Dimensions

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>3.3 x 3.3 x 2.75</th>
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<tbody>
<tr>
<td>Dimensions (in)</td>
<td>.13 x .13 x .108</td>
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#### Usage Conditions

<table>
<thead>
<tr>
<th>Pressure (bar)</th>
<th>2</th>
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<tbody>
<tr>
<td>Operating Temperature Range (°C)</td>
<td>-20 - 85</td>
</tr>
<tr>
<td>Operating Temperature Range (°F)</td>
<td>-4 - 185</td>
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#### Operation/Application

<table>
<thead>
<tr>
<th>Resolution</th>
<th>.016</th>
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<tbody>
<tr>
<td>Output Interface</td>
<td>I2C</td>
</tr>
<tr>
<td>Overpressure</td>
<td>10 bar</td>
</tr>
<tr>
<td>Pressure (mbar)</td>
<td>2000</td>
</tr>
<tr>
<td>Output/Span</td>
<td>24 bit ADC</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±0.5mbar</td>
</tr>
</tbody>
</table>

#### Packaging Features

| Package             | Surface Mountable |

#### Other

| Options             | High Endurance, Shielded |

SEE PRODUCTS ON NEXT PAGE
MS5837-02BA DIGITAL PRESSURE SENSOR
TE Model #: MS5837-02BA
TE Internal #: CAT-BLPS0059

Products (1 of 1)

<table>
<thead>
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<tbody>
<tr>
<td>MS5837-02BA01 2BA T&amp;R PRESSURE SEN</td>
<td></td>
<td>EU RoHS Compliant</td>
<td>EU ELV Compliant</td>
<td>MEAS</td>
<td>MEAS MS5837</td>
</tr>
<tr>
<td>MS5837-02BA21 2BA LS T&amp;R PRESSURE SEN</td>
<td>Shielded</td>
<td>EU RoHS Compliant</td>
<td>EU ELV Compliant</td>
<td>MEAS</td>
<td>MEAS MS5837</td>
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<tr>
<td>MS5837-02BA26 2BA HE LS T&amp;R PRESS SEN</td>
<td>High Endurance</td>
<td>Not Yet Reviewed for EU RoHS</td>
<td>Not Yet Reviewed for EU ELV</td>
<td>MEAS</td>
<td>MEAS MS5837</td>
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<tr>
<td>MS5837-02BA06 2BA HE T&amp;R PRESSURE SEN</td>
<td>High Endurance</td>
<td>EU RoHS Compliant</td>
<td>EU ELV Compliant</td>
<td>MEAS</td>
<td>MEAS MS5837</td>
</tr>
</tbody>
</table>

*EU RoHS Directive 2011/65/EU
These products comply with the substance restrictions of the Restriction on Hazardous Substances Directive 2011/65/EU (RoHS2). The RoHS Directive requires that certain electrical and electronic equipment products do not contain mercury, cadmium, hexavalent chromium, PBB, PBDE, lead, DEHP, BBP, DBP and DIBP above defined thresholds. Products indicated as ‘Compliant’ do not contain any of these substances above the prohibition thresholds. Finished electrical and electronic equipment products will be CE marked as required by the Directive. Components may not be CE marked.

**EU ELV Directive 2000/53/EC
These products comply with the substance restrictions of the End of Life Vehicles Directive 2000/53/EC (ELV). The ELV Directive requires that materials and components of vehicles do not contain mercury, cadmium, hexavalent chromium, and lead above defined thresholds. Products indicated as ‘Compliant’ do not contain any of these substances above the prohibition thresholds.
### Related Materials

**Data Sheet**  
MS5837-02BA  
English

**Specification Or Standard**  
Application Note MS5837 Series O-Ring Mount  
English

**Customer View Model**  
Customer View Model  
3D

**Customer View Model**  
Customer View Model  
English

**Customer View Model**  
Customer View Model  
English

**Customer View Model**  
Customer View Model  
English

### Also in the Series  
**MEAS MS5837**

Board Level Pressure Sensors(6)