

Pressure Sensor of Digital Output

MMR901XA

Outline

This product is a compact piezoresistive pressure sensor that makes use of MEMS^{*1} technology. It is equipped with a 16-bit resolution $\Delta\Sigma$ AD converter and outputs a highly precise pressure value as a digital value. As interface, an SPI^{*2} interface is used to communicate to a microcomputer. Thanks to the builtin temperature sensor and EEPROM^{*3} data, the dedicated software running on the external microcomputer can correct the property fluctuation caused due to variation in temperature.

*1 MEMS : [Micro-Electro-Mechanical Systems]

*2 SPI : [Serial Peripheral Interface]

*3 EEPROM : [Electrically Erasable and Programmable Read Only Memory]

Features (Unless otherwise specified, Topr=+25°C)

- (1) Small package : 7.0 (W) ×7.0 (D) ×7.2 (H) mm
- (2) Mounting of a $\Delta\Sigma$ AD converter (16-bit resolution) allows the product to output a highly precise pressure value
- (3) The built-in temperature sensor and correction data written on the EEPROM can correct the temperature
*Any calculation function is not built into the product.
- (4) Data output rate suitable for detection of the pulsating waveforms synchronized with heart beats (approximately 200 Hz)

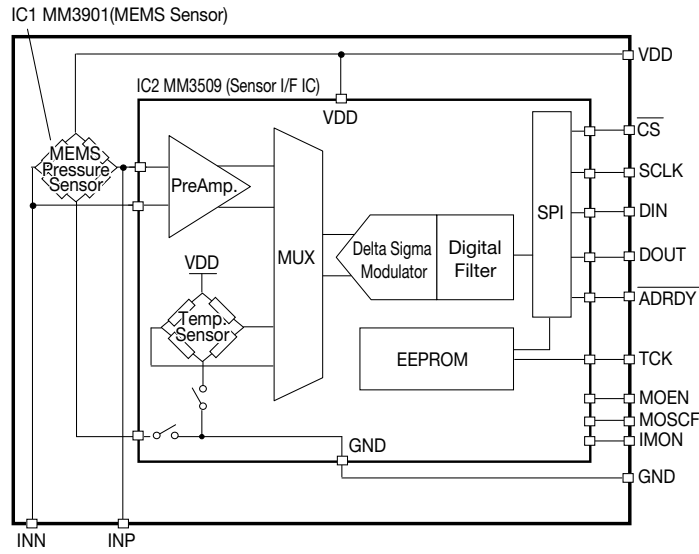
(5) Specifications

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|---|--|
| ●Pressure type | Gauge pressure (Based on atmospheric pressure) |
| ●Pressure medium | Air (no condensation) |
| ●Pressure detecting method | Piezoresistive method |
| ●Maximum load pressure | 80kPa (600mmHg) |
| ●Operating pressure range | 0~40kPa (300mmHg) |
| ●Resolution | 3.3Pa (0.025mmHg) |
| ●Accuracy | ±266Pa (±2mmHg) |
| ●Power supply voltage range | +2.4~+3.6V(+3.0V typ.) |
| ●Current consumed when pressure is measured | Max. 690μA |
| ●Standby current consumption | Max. 2μA |
| ●Output type | 16-bit digital |
| ●Conversion time | 5.12msec |
| ●Operating temperature range | 5~45°C |

Applications

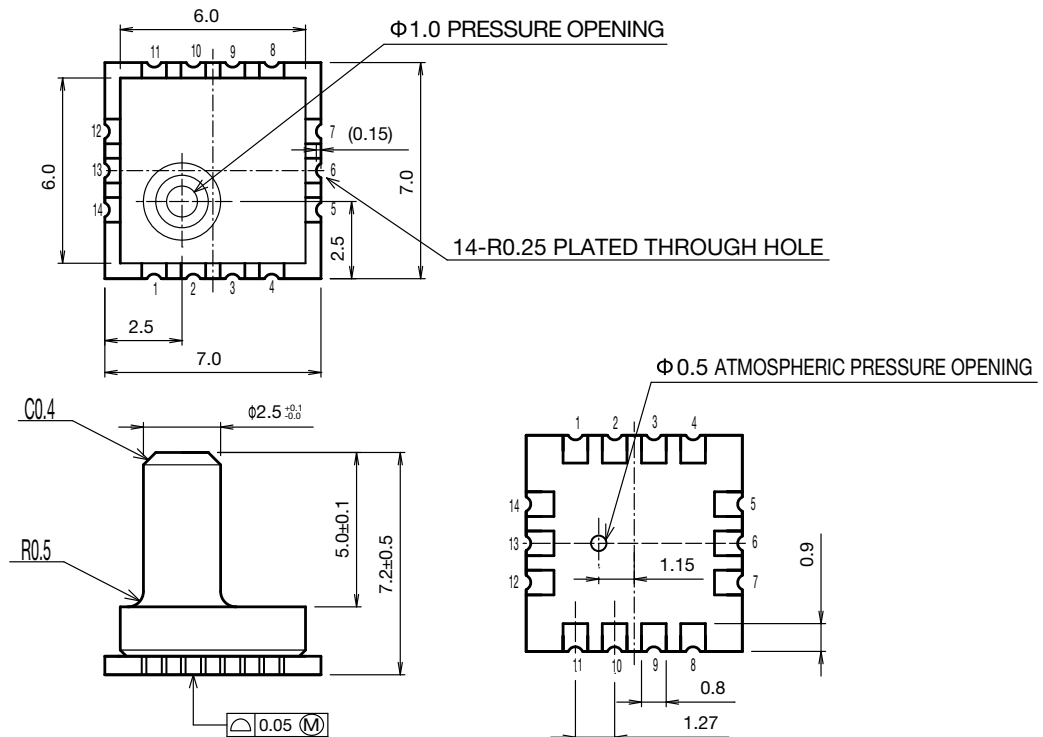
- (1) for Sphygmomanometer

Block Diagram



Dimensions

(Unit : mm)



• Any products mentioned in this catalog are subject to any modification in their appearance and others for improvements without prior notification.
 • The details listed here are not a guarantee of the individual products at the time of ordering. When using the products, you will be asked to check their specifications.