

# Pressure Sensor of Digital Output

## MMR901XA

### Outline

This product is a compact piezoresistive pressure sensor that makes use of MEMS<sup>\*1</sup> 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<sup>\*2</sup> interface is used to communicate to a microcomputer. Thanks to the builtin temperature sensor and EEPROM<sup>\*3</sup> 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

● 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

