

Digital output micro pressure sensor

MMR921 Series



Outline

The MMR921 series is a Gauge pressure sensor for the low range less than 1 kPa. The sensor consists of a MEMS pressure die and a dedicated analog front end IC to provide a fully calibrated and temperature compensated digital output (I2C/SPI). The speciality developed MEMS element with highly sensitive makes the output be low-noise required for measurement in ultra low pressure range. It has a pad that can be connected to an analog filter(external capacitor) that is effective against external noise, and the cutoff frequency proper for the customer's application is able to be selected to change the capacitor. Furthermore, noise reduction is possible by a built-in digital filter. Cutoff frequency of the digital filter is able to be changed.

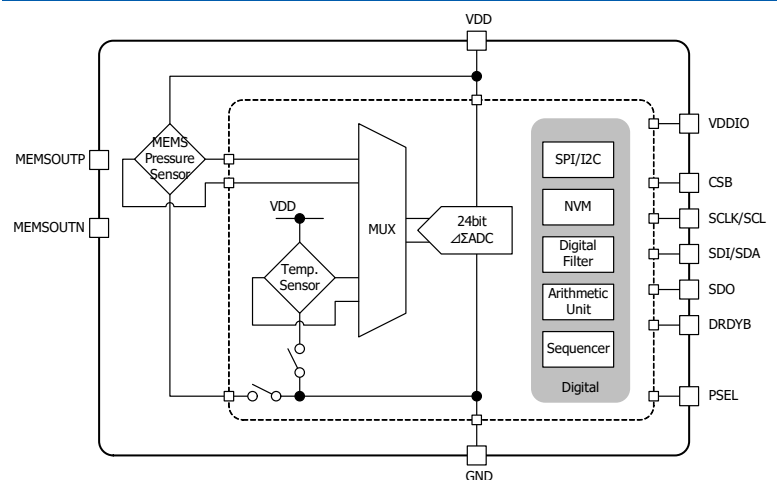
Applications

Medical, HVAC systems for building, White goods
Devices using air pressure

Features

- ① Small package 7.0(W) ×7.0(D) ×7.2(H)mm
- ② A high-accuracy pressure value can be output
Pressure measurement error
MMR921C25 : ±4.0%FS
MMR921C50 : ±2.0%FS
MMR921C99 : ±2.0%FS
- ③ It corrects the differences of sensors and temperature characteristics when shipped from our factory
- ④ It digitally outputs pressure value (SPI,I2C)
- ⑤ Noise reduction is possible by a built-in LowPassFilter.

Block Diagram



Specification

ITEM	SPECIFICATION		
	MMR921C25	MMR921C50	MMR921C99
Model	MMR921C25	MMR921C50	MMR921C99
Operating pressure range	±250Pa	±500Pa	±1,000Pa
Pressure type	Gage Pressure		
Pressure medium	Non-corrosive Gas (No Condensation)		
Operating temperature range	-40 ~ 85°C		
Supply voltage range	3.0 ~ 3.6V(3.3V typ.)		
Current consumption	1.4mA (TBD)		
Conversion time	0.4 / 50ms		
Pressure measurement error	±4.0%FS	±2.0%FS	±2.0%FS
Pressure span accuracy	±2.5%FS	±1.5%FS	±1.0%FS
Pressure effective resolution	0.05PaRMS@0.4ms / 0.005PaRMS@50ms (TBD)		
Interface	SPI / I2C		
Size	7.0(W) ×7.0(D) ×7.2(H)mm		

