

MEMS Pressure Sensor Preliminary Datasheet

1. General Introduction

M0105 SERIES is an MEMS Process & Gauge type MEMS pressure sensor especially designed for applications requiring pressure measurement from -1 bar to 1 bar. The pressure sensor is based on the industry-recognized piezo-resistive technology featuring long-term stability and EMC robustness.

2. Features

- ◆ Constant current or constant voltage drive
- ◆ MEMS process technology
- ◆ Operation range: -1 bar ~ 1 bar
- ◆ Gauge type sensor

3. Applications

- ◆ Blood pressure measurement
- ◆ Industrial control
- ◆ Pressure gauge

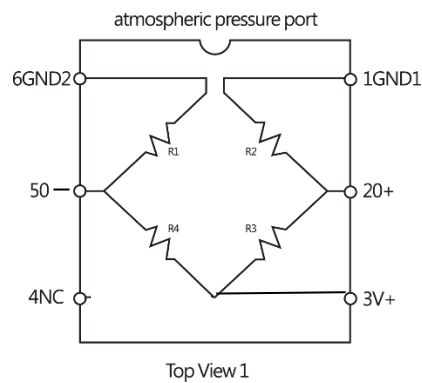
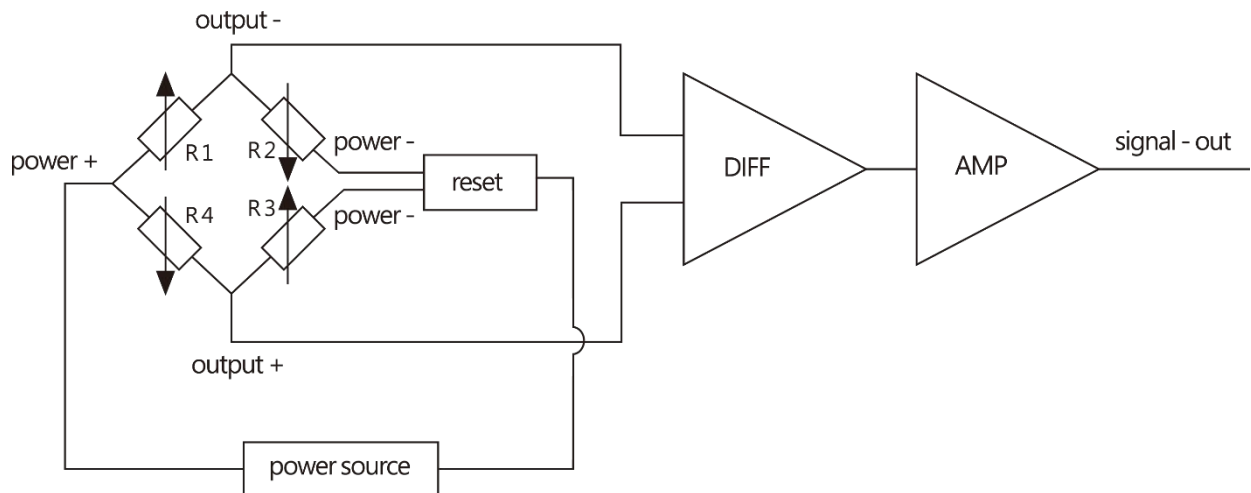
4. Maximum Rating

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Max. Pressure Range			-1	1	3	bar

5. Specifications

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Operation Voltage	V _{in}		—	5	10	V
Operation Current	I _O		—	1	2	mA
Bridge Impedance			4.5	5	5.5	kΩ
Operating Pressure			-1		1	bar
Full Scale Span	FS	V _{in} =5V	140	160	185	mV
Offset		V _{in} =5V	-15	0	15	mV
Linearity			-0.3	±0.15	+0.3	%FS
TC Span		Constant voltage	-0.17	-0.22	-0.27	%FS/°C
		Constant current	-0.08	±0.02	+0.08	%FS/°C
TC Offset			-0.08	-0.05	+0.08	%FS/°C
Burst Pressure			—	—	3X	Rated FS
Temperature Range			-40	25	+85	°C
Storage Temperature			-40		+125	°C

6 · Schematic Diagram

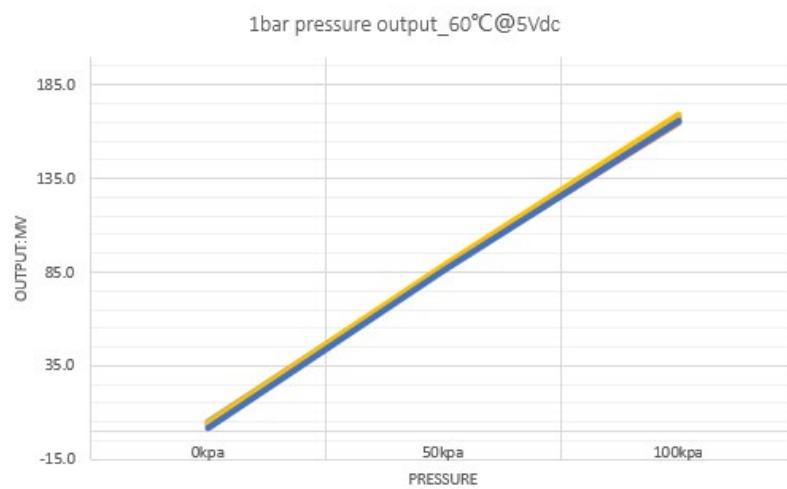
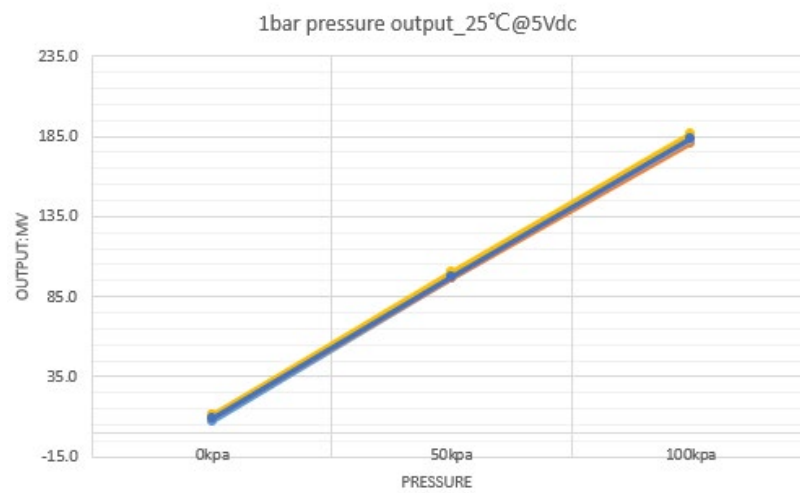
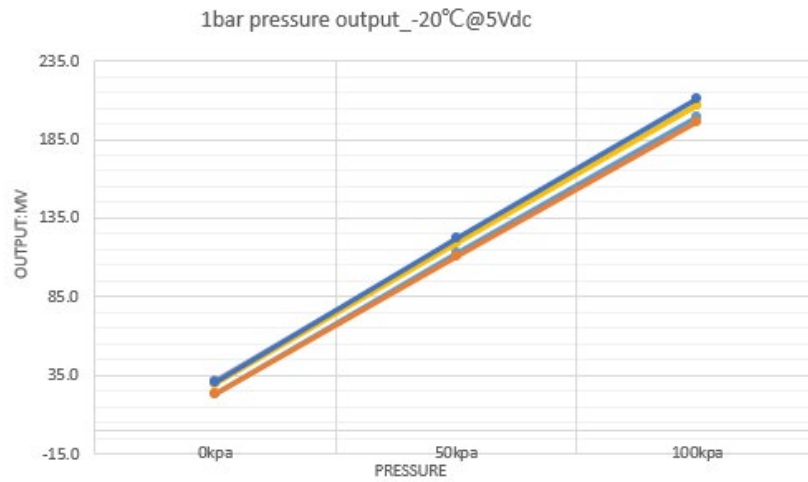


7. Customer Ordering Information

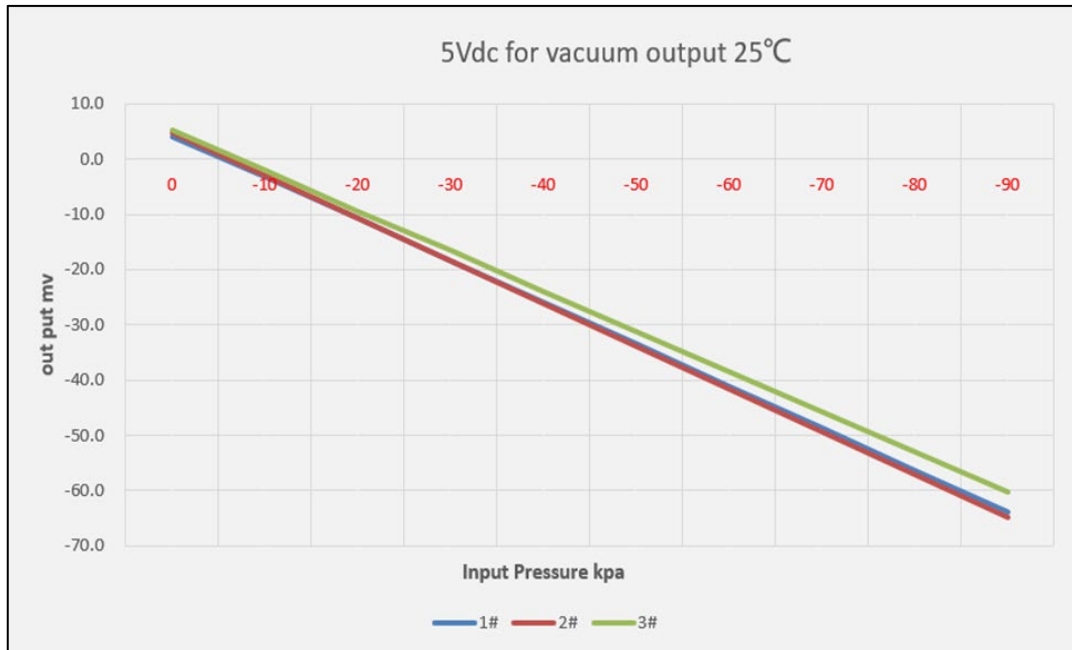
Marking Code
 100kPa = M0105
 1000kPa = M0106

Date Code Naming Rule
 Example : 38A
 A=2021 B=2022 C=2023...
 38 weeks = 38

8. No-Linearity and Temperature Effect

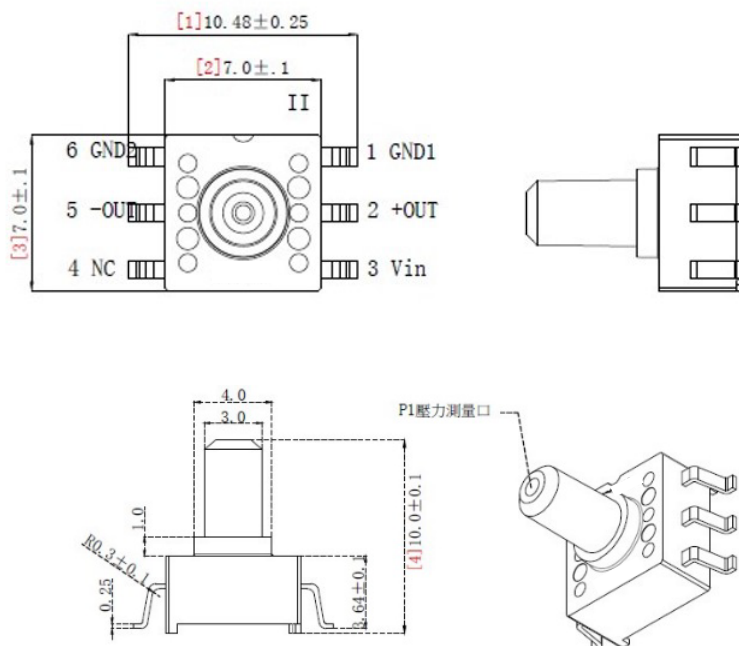


9. Negative Output Linearity Diagram



10. Pin Layout and Definition

Unit : mm

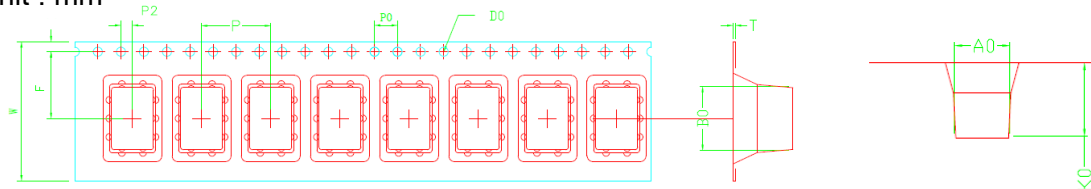


11. Packing Instructions

- ◆ 500pcs per 13" reel & dry packing
- ◆ Vibration-proof packing

ITEM	W	A0	B0	K0	R1	P	F	E	D0	D1	P0	P2	T	13"	
DIM	24.00	7.35	10.80	10.40	~	12.00	11.50	1.75	1.50	~	4.00	2.00	0.50	length/reel	pcs/reel
TOLE	+0.30	+0.15	+0.15	+0.10		+0.10	+0.10	+0.10	+0.10		+0.10	+0.15	+0.05	6.5M	500 pcs
	-0.30	-0.15	-0.15	-0.10		-0.10	-0.10	-0.10	-0.10		-0.10	-0.15	-0.05		

Unit : mm



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