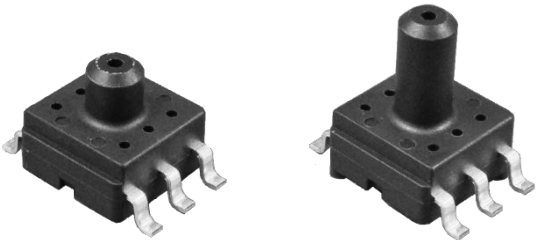


Analog Output
Semiconductor Pressure Sensor

AG2 Series

Description

The AG2 pressure sensor series is composed of a silicon piezoresistive pressure sensing chip and a signal conditioning integrated circuit. The low-level signal from the sensing chip is amplified, temperature compensated, calibrated and finally converted to a high level analog output voltage that is proportional with the applied pressure. The AG2 series measures gauge pressure.



AG2*3

AG2*6

Features

- Amplified and temperature compensated analog output
- High accuracy $\pm 1.5\%$ FS
- Supply voltage 3.0, 3.3 & 5.0 Vdc
- Low supply current Max 2 mA at 3.3 Vdc
- Miniature 10.3 mm x 7 mm SMT package
- 3 mm port and 6 mm port available
- Operating temperature -40 to 125°C
- Wide compensated temperature 0 to 85°C
- Pins & Package compatible with Fujikura’s XFGM integrated pressure sensor
- Customization available

Applications

- Battery-operated Devices
- Medical Devices
- Industrial Pneumatic Devices
- Consumer Devices

✓ RoHS Compliant

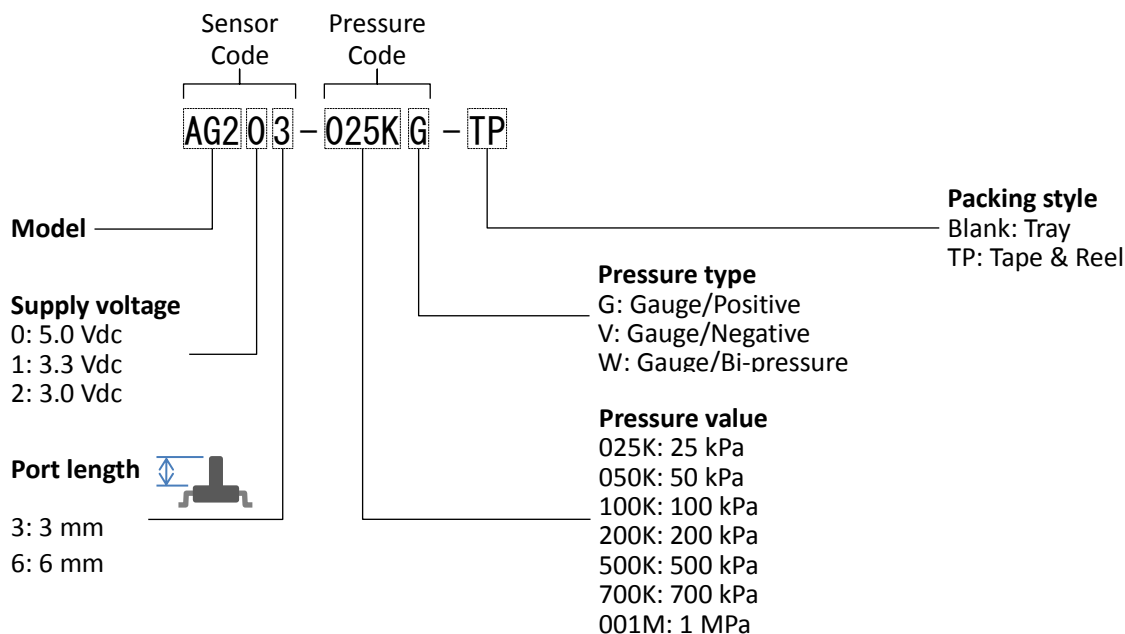
Device Lineup

Model	Port Length	Pressure Type	Supply Voltage	Accuracy	Pressure Range											
					-100	-50	0	25	50	100	200	500	700	1000 kPa		
AG2	6 mm or 3 mm	Gauge	5.0 Vdc or 3.3 Vdc	±1.5 %FS	(-15)	(-7)	025K	050KG	100KG	200KG	500KG	700KG	001MG	050KV	100KV	100KW
			3.0 Vdc	±2.0 %FS	Same as the above											

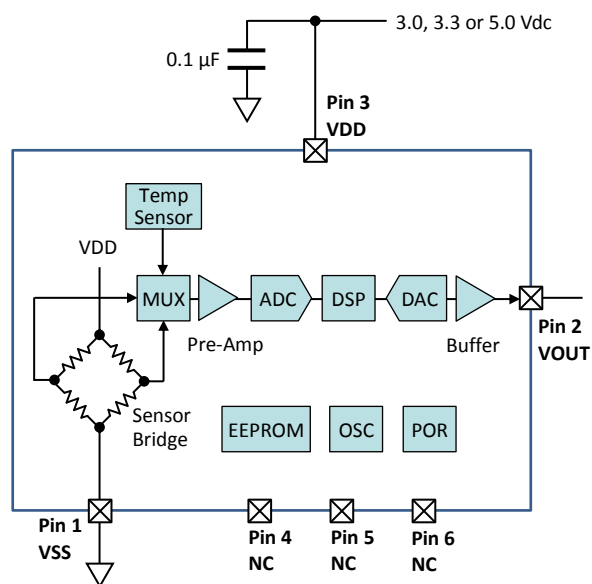
Analog Output Semiconductor Pressure Sensor

AG2 Series

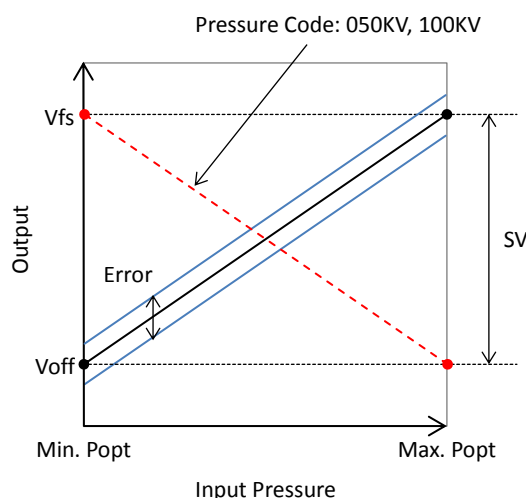
Device Name Code



Block Diagram



Output Characteristics



Analog Output Semiconductor Pressure Sensor

AG2 Series

Absolute Maximum Ratings

Item	Symbol	Rating	Unit
Supply Voltage	VDDmax	6	Vdc
Load Pressure	Pmax+	See Pressure Range Table	
Operating Temperature	Topt	-40 to +125	°C
Storage Temperature	Tstg	-40 to +125	°C

General Specifications

Item	Symbol	Sensor Code			Unit
		AG20*	AG21*	AG22*	
Supply Voltage	VDD	5.0±0.25	3.3±0.165	3.0±0.15	Vdc
Type of Pressure	-	Gauge pressure			
Pressure Media	-	Non-corrosive gases			
Compensated Temperature	-	0 to +85			°C
Operating Humidity	Hopt	30 to 85 (non-condensing)			%RH
Storage Humidity	Hstg	30 to 85 (non-condensing)			%RH

Pressure Range

Item	Symbol	Pressure Code										Unit
		025KG	050KG	100KG	200KG	500KG	700KG	001MG	050KV	100KV	100KW	
Absolute Maximum Load Pressure	Pmax+	+50	+100	+200	+400	+1000	+1400	+1500	+100	+200	+200	kPa
Measurement Pressure	Popt	Min.	0	0	0	0	0	0	-50	-100	-100	
		Max.	+25	+50	+100	+200	+500	+700	+1000	0	0	+100

Electrical Characteristics

Load resistor $R_L = \infty$, Ambient temperature $T_a = 25^\circ\text{C}$

Sensor Code	Item	Condition	Symbol	Rating			Unit
				Min.	Typ.	Max.	
AG20* VDD = 5.0 Vdc	Offset Voltage	Min. Popt, 050KV & 100KV: Max. Popt	Voff	0.1325	0.2	0.2675	V
	Full Scale Voltage	Max. Popt, 050KV & 100KV: Min. Popt	Vfs	4.6325	4.7	4.7675	V
	Span Voltage	Min. to max. Popt	SV	-	4.5	-	V
	Accuracy	0 to 85°C	Error	-1.5	-	+1.5	%FS
				-0.0675	-	+0.0675	V
	Output Resolution		Vrso	-	2.5	-	mV
Supply Current		Ic	-	-	3	mAdc	
AG21* VDD = 3.3 Vdc	Offset Voltage	Min. Popt, 050KV & 100KV: Max. Popt	Voff	0.2595	0.3	0.3405	V
	Full Scale Voltage	Max. Popt, 050KV & 100KV: Min. Popt	Vfs	2.9595	3.0	3.0405	V
	Span Voltage	Min. to max. Popt	SV	-	2.7	-	V
	Accuracy	0 to 85°C	Error	-1.5	-	+1.5	%FS
				-0.0405	-	+0.0405	V
	Output Resolution		Vrso	-	1.7	-	mV
Supply Current		Ic	-	-	2	mAdc	
AG22* VDD = 3.0 Vdc	Offset Voltage	Min. Popt, 050KV & 100KV: Max. Popt	Voff	0.096	0.15	0.204	V
	Full Scale Voltage	Max. Popt, 050KV & 100KV: Min. Popt	Vfs	2.796	2.85	2.904	V
	Span Voltage	Min. to max. Popt	SV	-	2.7	-	V
	Accuracy	0 to 85°C	Error	-2.0	-	+2.0	%FS
				-0.054	-	+0.054	V
	Output Resolution		Vrso	-	1.5	-	mV
Supply Current		Ic	-	-	2	mAdc	
Common	Response Time	for reference	tr	-	1	-	msec.
	Sampling Frequency		fs	-	1	-	kHz
	Load Resistor	VOUT - VSS or VDD - VOUT	RL	2.5	-	-	kΩ
	Load Capacitance	VOUT - VSS	CL	-	-	15	nF

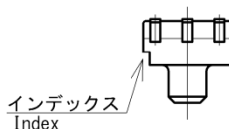
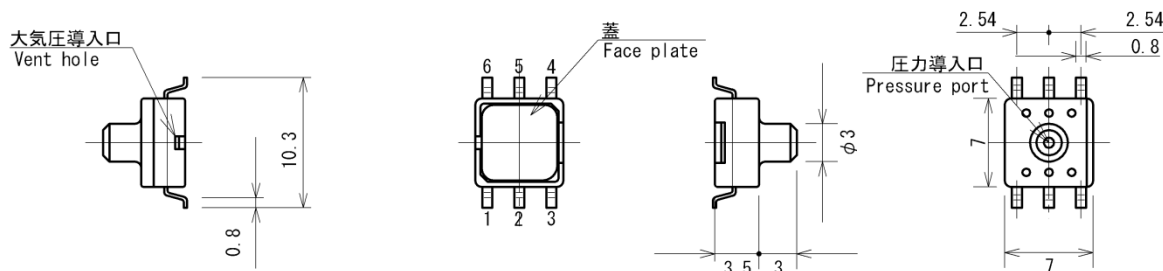
Analog Output Semiconductor Pressure Sensor

AG2 Series

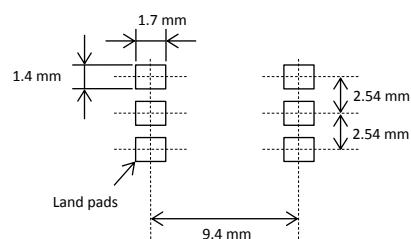
Package Dimensions

unit: mm

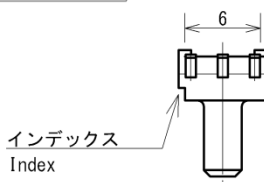
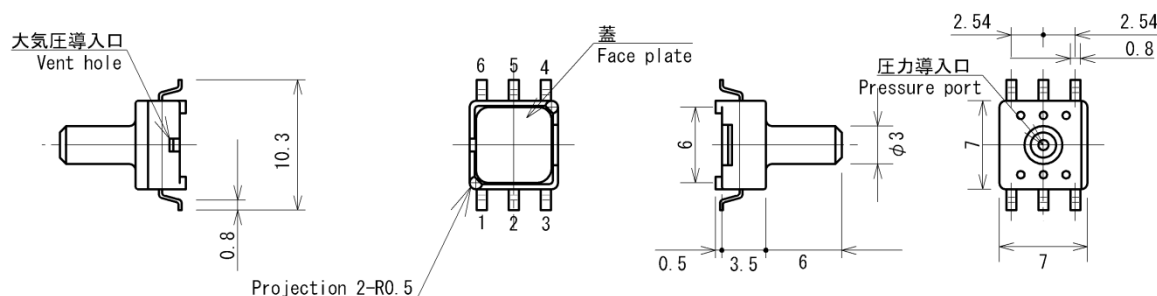
Sensor Code: AG2*3



Footprint (for reference)



Sensor Code: AG2*6



Footprint (for reference)

