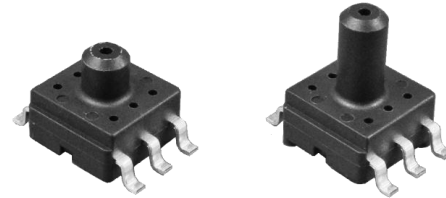


Analog Output Semiconductor Pressure Sensor

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 (-15)	-50 (-7)	0	25 (3)	50 (7)	100 (15)	200 (30)	500 (70)	700 (100)	1000 kPa (150) psi	
AG2	6 mm or 3 mm	Gauge	5.0 Vdc or 3.3 Vdc	$\pm 1.5\%$ FS											
			3.0 Vdc	$\pm 2.0\%$ FS	Same as the above										

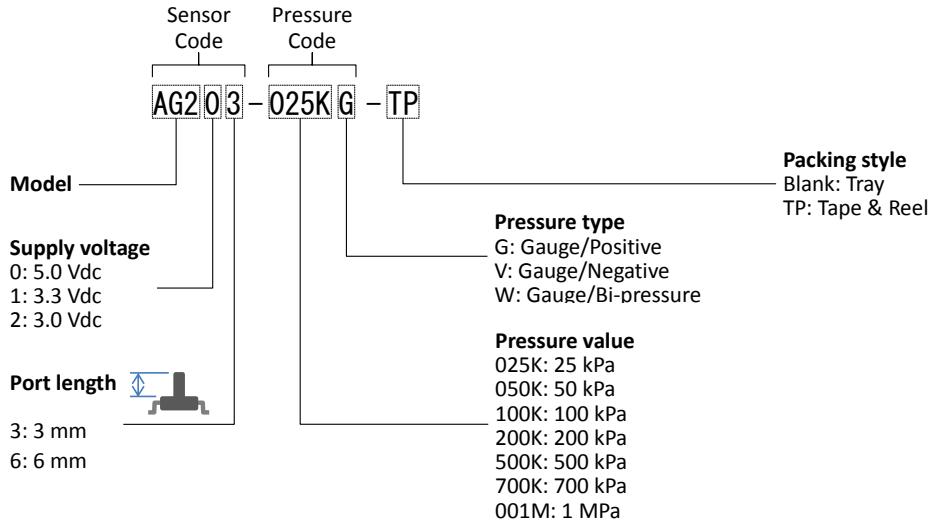
© 2013 Fujikura Ltd. All rights reserved.
This data sheet has a possibility to be revised without notice. This data sheet does not contain all information. Before designing, please ask us the specifications of this product.



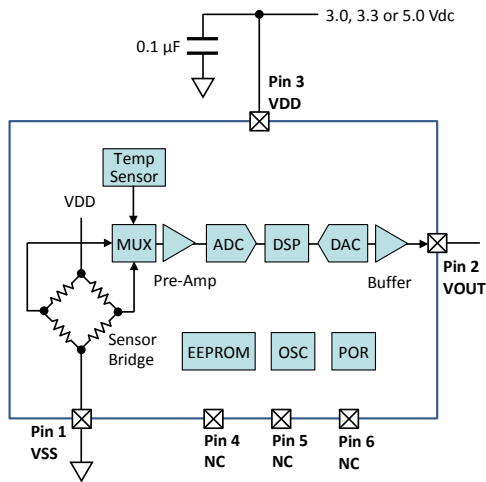
Analog Output Semiconductor Pressure Sensor

AG2 Series

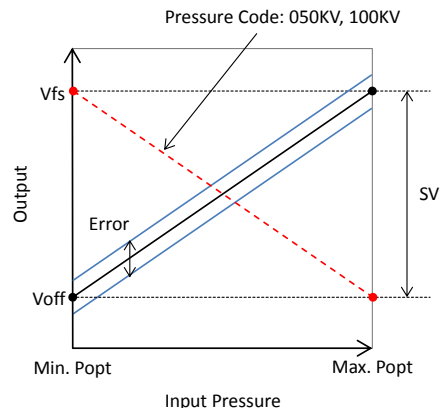
Device Name Code



Block Diagram



Output Characteristics



© 2013 Fujikura Ltd. All rights reserved.
 This data sheet has a possibility to be revised without notice. This data sheet does not contain all information. Before designing, please ask us the specifications of this product.



Document Number V-70044B

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	

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

© 2013 Fujikura Ltd. All rights reserved.

This data sheet has a possibility to be revised without notice. This data sheet does not contain all information. Before designing, please ask us the specifications of this product.



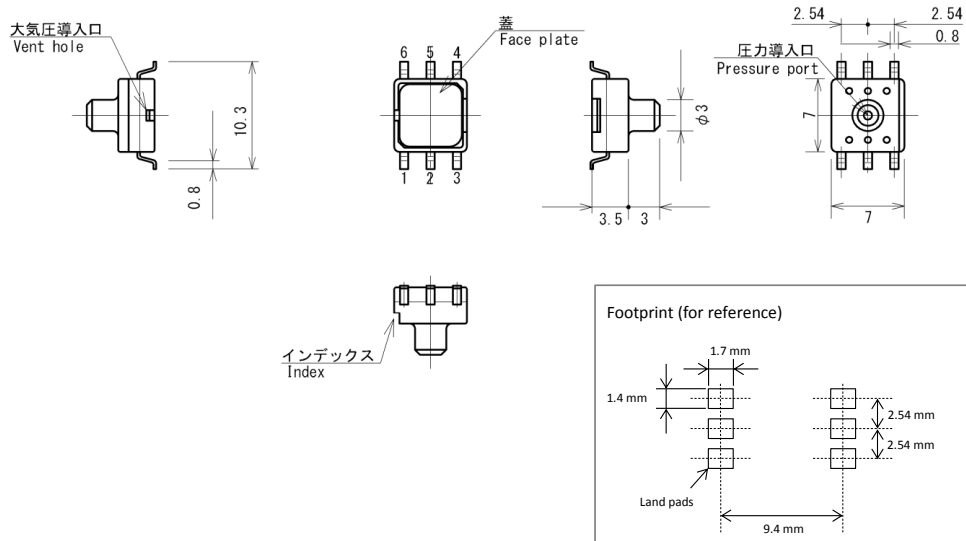
Analog Output
Semiconductor Pressure Sensor

AG2 Series

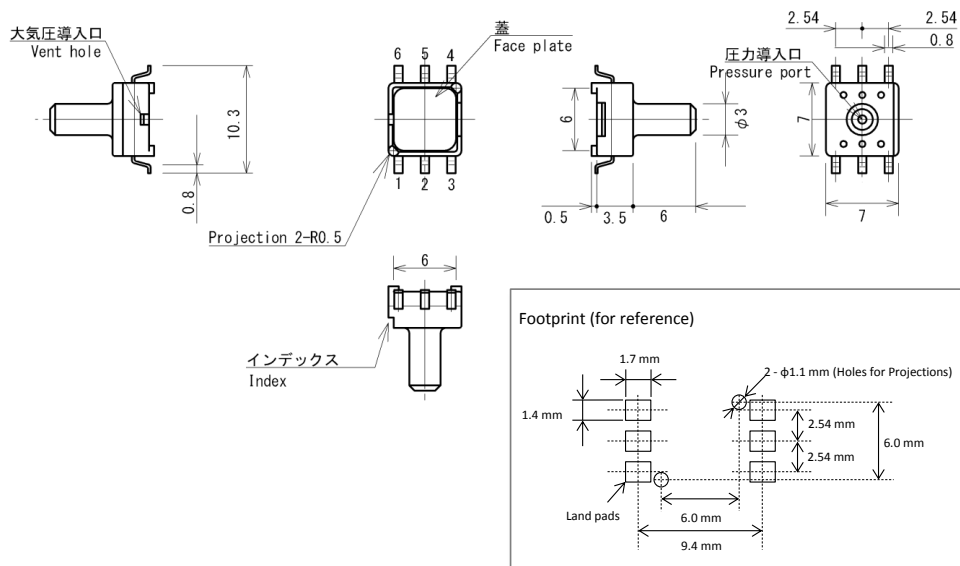
Package Dimensions

unit: mm

Sensor Code: AG2*3



Sensor Code: AG2*6



© 2013 Fujikura Ltd. All rights reserved.
 This data sheet has a possibility to be revised without notice. This data sheet does not contain all information. Before designing, please ask us the specifications of this product.



Headquarter Switzerland:
Pewatron AG
Thurgauerstrasse 66
CH-8050 Zurich
Phone +41 44 877 35 00
info@pewatron.com

Office Germany:
Pewatron Deutschland GmbH
Edisonstraße 16
D-85716 Unterschleißheim
Phone +49 89 374 288 87 00
info.de@pewatron.com



PEWATRON
SENSORS · POWER SOLUTIONS

We are here for you. Addresses and Contacts.

Sales Germany & Austria

Geometrical sensors Other products

Kurt Stritzelberger
Phone +49 89 374 288 87 22
kurt.stritzelberger@pewatron.com

Pressure sensors Other products

Gerhard Vetter
Phone +49 89 374 288 87 26
gerhard.vetter@pewatron.com

Gas sensors and modules

Peter Felder
Phone +41 44 877 35 05
peter.felder@pewatron.com

Sales Switzerland & Liechtenstein

Postcode 3000 – 9999

Basil Frei
Phone +41 44 877 35 18
basil.frei@pewatron.com

Postcode 1000 – 2999

Christian Mohrenstecher
Phone +41 76 444 57 93
christian.mohrenstecher@pewatron.com

Sales International Key Accounts

Peter Felder
Phone +41 44 877 35 05
peter.felder@pewatron.com

Sales Other Countries / Product Management

Pressure Sensors Load Cells

Philipp Kistler
Phone +41 44 877 35 03
philipp.kistler@pewatron.com

Gas sensors Gas sensor modules

Dr. Thomas Clausen
Phone +41 44 877 35 13
thomas.clausen@pewatron.com

Flow / Level / Medical products

Dr. Adriano Pittarelli
Phone +49 89 374 288 87 67
adriano.pittarelli@pewatron.com

Power supplies

Sebastiano Leggio
Phone +41 44 877 35 06
sebastiano.leggio@pewatron.com

Linear position sensors Angle sensors

Eric Letsch
Phone +41 44 877 35 14
eric.letsch@pewatron.com

Accelerometers Sensor elements

Christoph Kleye
Phone +49 89 374 288 87 61
christoph.kleye@pewatron.com

Drive technology

CH Postcode 5000 – 9999 / DE

Roman Homa
Phone +41 76 444 00 86
roman.homa@pewatron.com

Drive technology

CH Postcode 1000 – 4999 / AT / IT / FR

Christian Mohrenstecher
Phone +41 76 444 57 93
christian.mohrenstecher@pewatron.com

Harald Thomas

Phone +49 89 374 288 87 23
harald.thomas@pewatron.com