Analog Output (Non-Digitally Corrected) Semiconductor Pressure Sensor

AD3 Series

Description

The AD3 pressure sensor series is a differential pressure sensor with two ports. AD3 series is composed of a silicon piezoresistive pressure sensing chip and a signal conditioning integrated circuit. The signal conditioning IC does not have A/D and D/A converter in a gain amplifier. Therefore the AD3 series can provide full analog amplified and temperature compensated output. Moreover the amplification circuit is designed with low noise output.

AD3

Features

- Two straight ports
- Non-digitally amplified and temperature compensated analog output
- High accuracy ±1.5 %FS / 0 to +60℃
- Supply voltage 3.3 & 5.0 Vdc
- Customization or modification available

Applications

- Medical devices
- Industrial pneumatic devices
- Consumer devices

✓ RoHS Compliant

Device Lineup

Model	Pressure Type	Supply Voltage	Accuracy	Pressure Range
AD3	Differential	5.0 Vdc or 3.3 Vdc	±1.5 %FS	-100 (-15) 0 50 (7) 100 (15) 200 (30) 1000 kPa (150) psi 050KP 100KP 200KP 001MP 100KW

Fujikura

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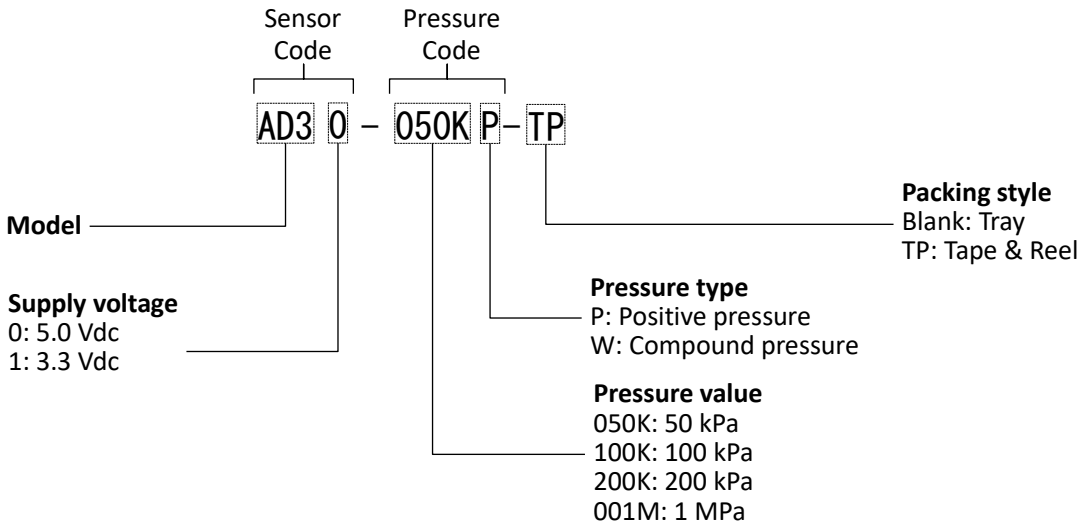
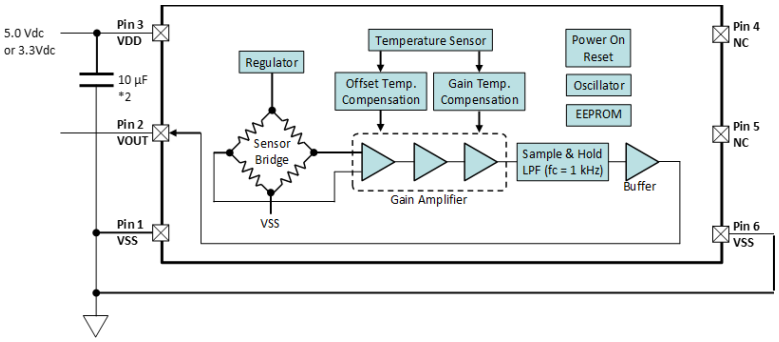
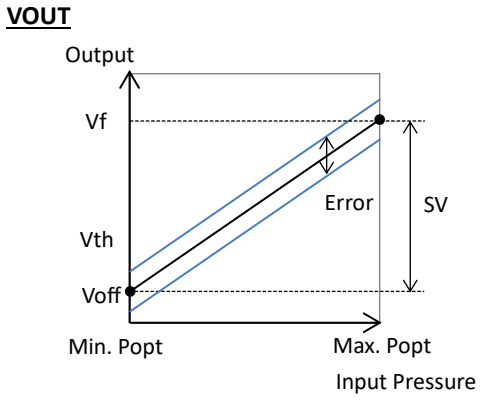
Device Name Code



Block Diagram



Output Characteristics



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Absolute Maximum Ratings

Item	Symbol	Rating	Unit
Supply Voltage	VDDmax	6	Vdc
Input Voltage	VIN	VSS - 0.3 to VDD + 0.3	V
Load Pressure	Pmax+	See Pressure Range Table	
Operating Temperature	Topt	-10 to +105	℃
Storage Temperature	Tstg	-40 to +105	℃

General Specifications

Item	Symbol	Sensor Code		Unit
		AD30	AD31	
Supply Voltage	VDD	5.0±0.25	3.3±0.165	Vdc
Type of Pressure	-	Differential pressure		
Pressure Media	-	Non-corrosive gases		
Compensated Temperature	-	0 to +60		℃
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
			050KP	100KP	200KP	001MG	100KW	
Absolute Maximum Load Pressure	Pmax+		+100	+200	+400	+1500	+200	kPa
Measurement Pressure	Popt	Min.	0	0	0	0	-100	
		Max.	+50	+100	+200	+1000	+100	

Electrical Characteristics

Load resistor RL =∞, Ambient temperature Ta = 25℃

Sensor Code	Item	Condition	Symbol	Rating			Unit
				Min.	Typ.	Max.	
AD30 VDD = 5.0 Vdc	Offset Voltage	Min. Popt	Voff	0.1325	0.2	0.2675	V
	Full Scale Voltage	Max. Popt	Vfs	4.6325	4.7	4.7675	V
	Span Voltage	Min. to max. Popt	SV	-	4.5	-	V
	Accuracy	0 to 60℃	Error	-1.5	-	+1.5	%FS
				-0.0675	-	+0.0675	V
	Supply Current		Ic	-	-	6	mAdc
AD31 VDD = 3.3 Vdc	Offset Voltage	Min. Popt	Voff	0.2595	0.3	0.3405	V
	Full Scale Voltage	Max. Popt	Vfs	2.9595	3.0	3.0405	V
	Span Voltage	Min. to max. Popt	SV	-	2.7	-	V
	Accuracy	0 to 60℃	Error	-1.5	-	+1.5	%FS
				-0.0405	-	+0.0405	V
	Supply Current		Ic	-	-	5	mAdc
Common	Response Time	for reference	tr	-	1	-	msec.
	Load Resistor	VOUT - VSS or VDD - VOUT	RL	9.5	-	-	kΩ
	Load Capacitance	VOUT - VSS	CL	-	-	50	pF

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Package Dimensions

unit: mm