MERIT SENSOR™

PRELIMINARY

DATA SHEET

LP Series – Analog

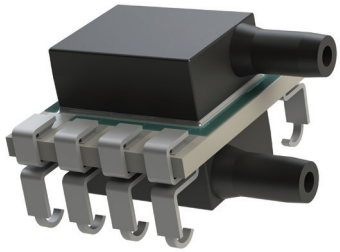
LP Series - Analog is a surface mountable pressure sensor package with a compensated analog output suitable for **ultra-low pressure sensing applications.**

COMPANY: Merit Sensor is a leader in piezoresistive pressure sensing and partners with clients to create high performing solutions for a variety of applications and industries.

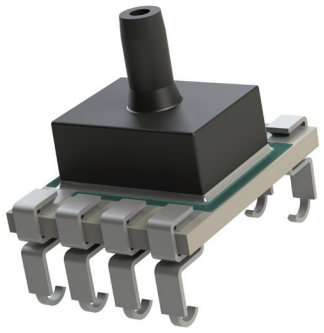
SENTIUM: Merit Sensor products incorporate a proprietary Sentium® technology developed to provide a best-in-class operating temperature range (-40°C to 85°C) and superior stability.

TECHNOLOGY: Merit Sensor utilizes a piezoresistive Wheatstone bridge in a design that anodically bonds glass to a chemically etched silicon diaphragm. All products are RoHS compliant.

CAPABILITIES: Merit Sensor designs, engineers, fabricates, dices, assembles, tests, sells and services die and packaged products from a state-of-the-art facility near Salt lake City, Utah



RoHS Compliant



FEATURES

Pressure Range	0.15 to 1 psi (10.3 to 68.9 mbar; 1.03 to 6.89 KPa; 4.2 to 27.7 in H_2O)
Output	Amplified Analog
Type	Gage and Differential
Media	Clean, Dry Air and Non-corrosive Gases
Packaging	Tape and Reel
Customization	Sensitivity, Resistance, Bridge, Constraint, etc.

BENEFITS

Performance	Enjoy best-in-class performance due to Merit's proprietary Sentium technology
Cost	Save money over time with high-performing die
Security	Feel confident doing business with an experienced company backed by a solid parent company (NASDAQ: MMSI)
Speed	Get to market quickly with creative and flexible solutions
Service	Experience prompt, personal and professional support

1410 Family Part Number Configurator

1410-XXXX-XX-XX

Pressure
P15 = .15psi
P20 = .20psi
P30 = .30psi
P50 = .50psi
1P0 = 1.0psi

Reference
D = Differential
G = Gage

Supply Voltage
1 = 2.7V to 5.5V

Output Range
1 = 0V to 1V
2 = 0.5V to 4.5V *(ratiometric when using Supply Voltage option #1, absolute when using Supply Voltage option #2)*
3 = 0V to Vdd *(ratiometric when using Supply Voltage option #1, 0V to 5V when using Supply Voltage option #2)*
**Custom ranges available upon request*

Pin Type
1 = J-lead

Port
1 = Dual horizontal, facing same direction
2 = Vertical top, horizontal bottom
3 = Vertical top, bottom vent
4 = Horizontal top, bottom vent
5 = Dual Horizontal, facing opposite direction

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SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Units	Notes
Electrical					
Supply Voltage (Vdd)	2.7	5	5.5	V	
Extended Supply Voltage (Vdd)	5.5		30	V	(1)
Supply Current	0.25	1	1.4	mA	(2)
Output Current	2.2			mA	
Operating Temperature	-40		85	°C	
Storage Temperature	-55		100	°C	
Min Output Load Resistance	5			kΩ	(3)
Recommended Input Capacities		0.1		µF	(4)
Performance					
ADC Resolution			12	Bit	
Ratiometric output voltage	.5V		4.5	V	(2)
Accuracy	-1.5		1.5	% FSO	(5)
Startup time			8	ms	
Analog update time		1	2	ms	
Sampling range			1000	Hz	
Proof Pressure	3X				(6)
Burst Pressure	5X				(6)
Media Compatibility					
For Use With Non-corrosive Dry Gasses Solder temperature: max 250 °C, 5 seconds max					

Notes:

(1) 5.5V to 30V available upon request

(2) @5V input voltage

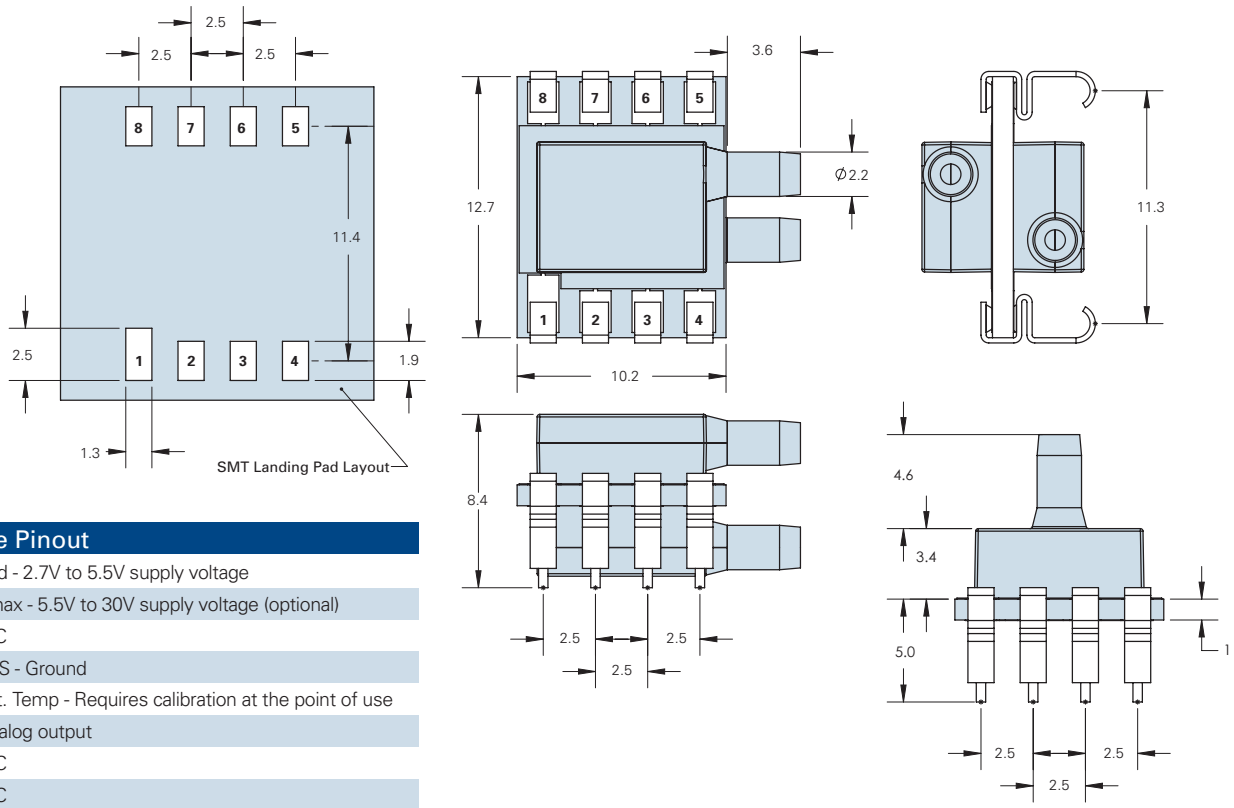
(3) Must be added at the point of use

(4) May be added on the sensor board at the customer's request. Output capacitor may also be added (RC time constant must have a rise time of < 1 second)

(5) Over -40°C to 85°C

(6) Full scale pressure

DIMENSIONS (millimeters)



Device Pinout

P1 = Vdd - 2.7V to 5.5V supply voltage

P2 = Vmax - 5.5V to 30V supply voltage (optional)

P3 = N/C

P4 = VSS - Ground

P5 = Ext. Temp - Requires calibration at the point of use

P6 = Analog output

P7 = N/C

P8 = N/C

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