MERIT SENSOR™

DATA SHEET

HM Series

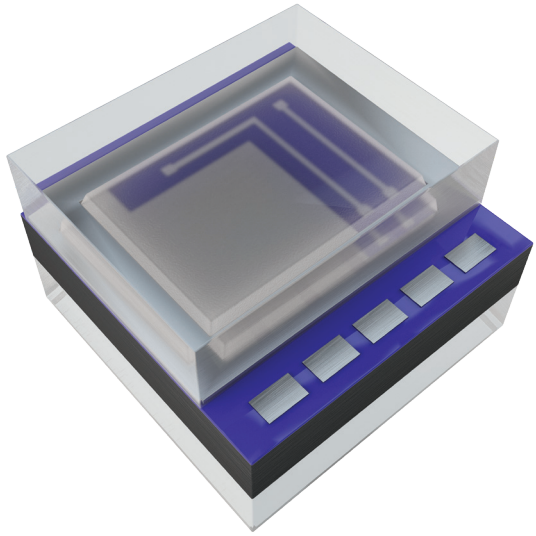
The HM Series is ideal for high-volume, low and medium pressure, harsh-media applications.

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 150°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, and tests products from a state-of-the-art facility near Salt Lake City, Utah.



FEATURES

Range	15 to 500 psi (1 to 34.5 bar; 103 to 3,447 KPa)
Type	Absolute; pressurized from cavity side Gage; pressurized from either side of the diaphragm
Media	Air, gases and liquids that are compatible with silicon and glass
Shipping	Wafers on tape, waffle pack
Flexibility	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

HM Series Part Number Configurator

HXX-XXXX-L2X

Impedance
- 1 = 5kohm Bridge
- 2 = 3.5kohm Bridge

Packing
- T = Sawn wafer on tape in metal frame
- W=Die in waffle pack

Backglass finish
- M = Au backmetal*

Bridge
- C = Closed
- T = Closed with temp diode*

Constraint
- L2 = Absolute
- NL2 = Gage

Sensitivity µV/V/psi
- 1000 = 15 psi
- 0300 = 100 psi
- 0090 = 300 psi
- 0070 = 500 psi

Example:
H1T-0300-L2MT
offers 5kohm Impedance, Closed bridge with temp diode, 300 µV/V/psi sensitivity, absolute, with Au backmetal

* Optional

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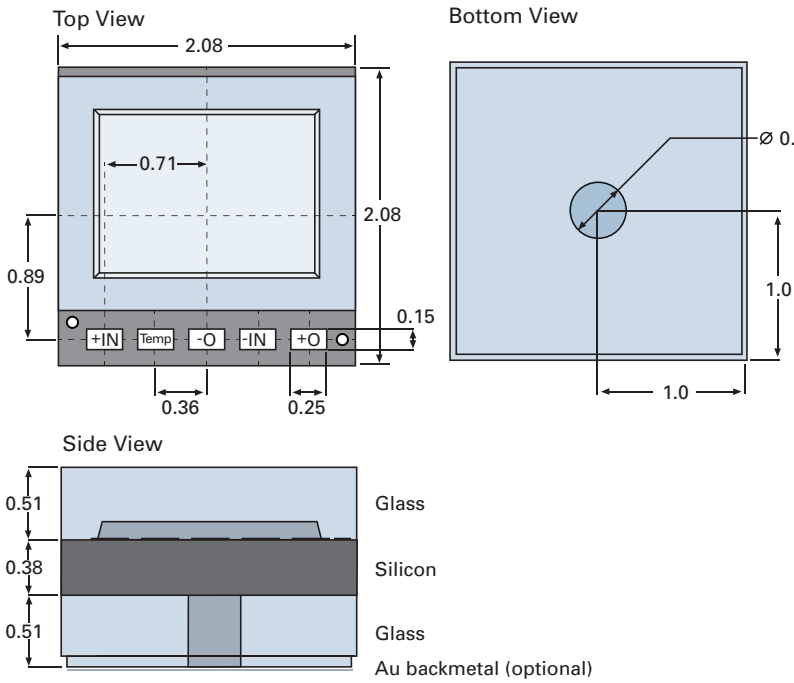
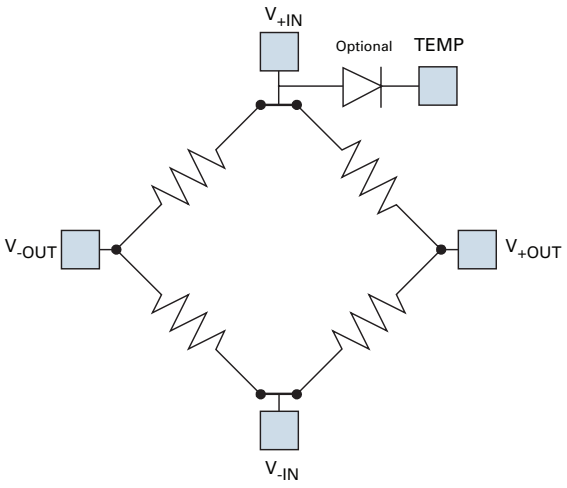
SPECIFICATIONS

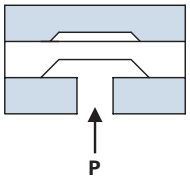
Parameter	Minimum	Typical	Maximum	Units	Notes
Electrical & Environmental					
Excitation (In)		5	15	V	Maximum: 3 mA
Impedance	4000	5000	6000	Ω	Optional: 3,500 +/- 500
Operating Temperature	-40		150	°C	Sentium® technology
Storage Temperature	-55		160	°C	
Performance					
Offset	-10	0	10	mV/V	Zero pressure; gage only; @25°C
Non-linearity	-0.2	0	0.2	% FSO	Best Fit Straight Line; @25°C
Pressure Hysteresis	-0.1	0	0.1	% FSO	@25°C
Temp Coeff – Zero	-25	0	25	µV/V/°C	-40°C to 150°C
Temp Coeff – Resistance	2300	2800	3300	PPM/°C	-40°C to 150°C
Temp Coeff – Sensitivity	-1500	-2200	-2500	PPM/°C	-40°C to 150°C
U_{diode} @ I_S = 40uA	350	530	800	mV	Room Temp
TC of U_{diode}	-4.0		-1.0	mV/°C	-40 to 150C
Long-Term Stability	-0.2	0	0.2	% FSO	
Long-Term Stability (15psi only)	-0.4	0	0.4	% FSO	
Burst Pressure	5X				Full scale pressure
Burst Pressure (500 psi part)	1500			psi	
Full-Scale Output (@ 5 volts excitation)					
15 psi (1 bar; 103 KPa)	60	75	90	mV	Other outputs available upon request
100 psi (6.9 bar; 689.5 KPa)	120	150	180	mV	
300 psi (20.7 bar; 2,068 KPa)	110	135	160	mV	
500 psi (34.5 bar; 3,447 KPa)	140	175	210	mV	

DIMENSIONS (millimeters, post cut)



ELECTRICAL





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