



Merit Sensor's RSH Series is an uncompensated, packaged pressure sensor designed for a wide range of pressures. The RSH Series is compatible with harsh media because of its packaging, which isolates the media to the Kovar or ceramic pressure port and the backside of the MEMS die.

COMPANY: Merit Sensor designs and fabricates MEMS piezoresistive pressure sensors at our Utah, USA engineering and fabrication facility. We focus on the customization of technically superior pressure sensors to solve customers' pressure sensing needs for the medical, industrial, automotive and aerospace industries.

TECHNOLOGY: Merit Sensor utilizes a piezoresistive Wheatstone bridge with a chemically etched silicon diaphragm. All products are RoHS compliant.

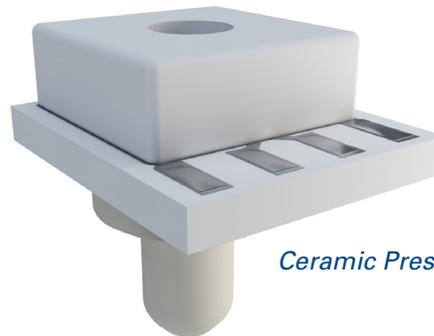
CAPABILITIES: Merit Sensor designs, engineers, fabricates, dices, assembles and tests all products from a state-of-the-art facility near Salt Lake City, Utah.

FEATURES

- Pressure Range: 0 to 500psi (0 to 34.474bar)
- Temperature Range: -40°C to +150°C
- Type: Backside absolute or gage
- Media: Air, gases and liquids (to be determined on an application-by-application basis with Merit engineering team)
- Shipping: Tape and reel
- Excellent performance in both constant current and constant voltage applications
- Simple pressure source attachment and electrical connection
- Designed for a soldered connection to wires, ribbon cable, flex strip, or surface mount pcb
- Customizations are available upon request

APPLICATION EXAMPLES

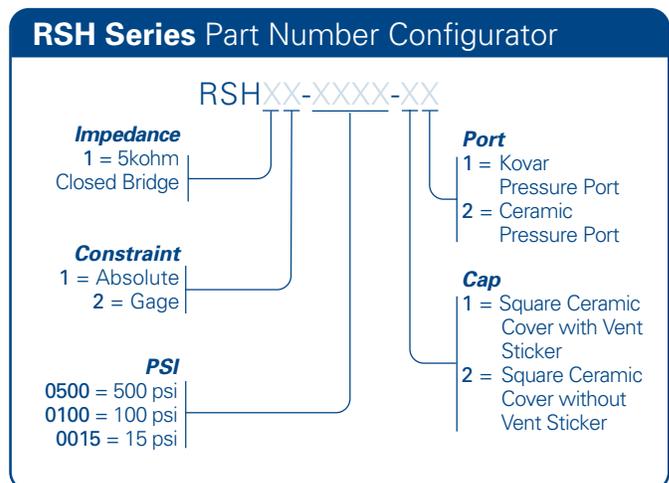
- Medical inflation
- Water pressure and flow management
- Industrial process control



Ceramic Pressure Port

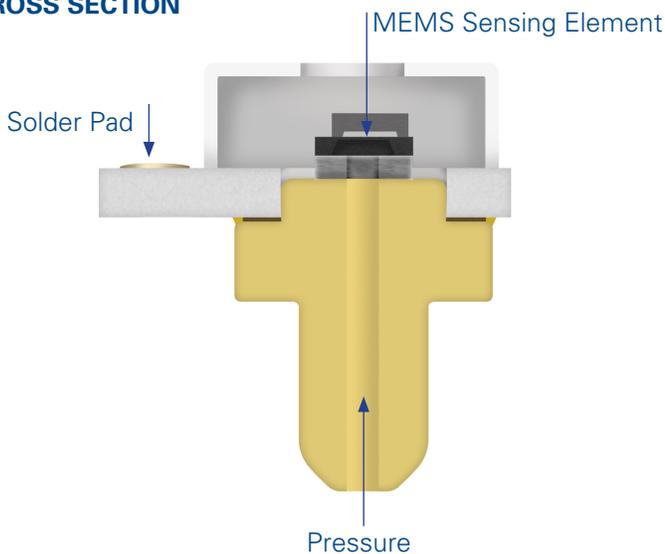
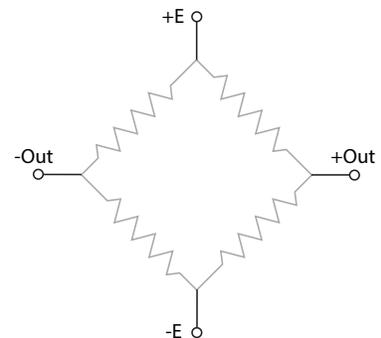
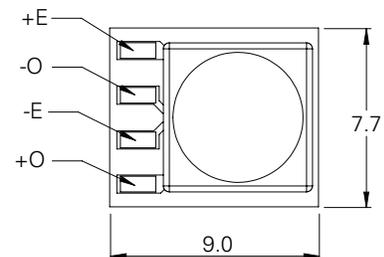
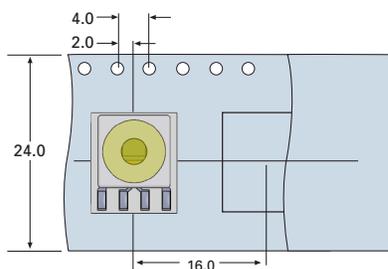


Kovar Pressure Port



SPECIFICATIONS

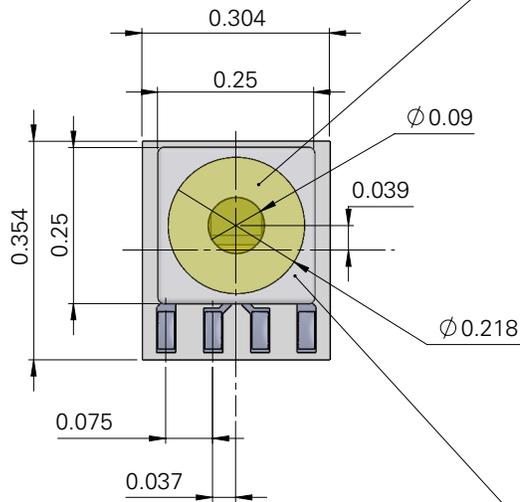
Parameter	Minimum	Typical	Maximum	Units	Notes
Electrical & Environmental					
Excitation (In)		5	15	V	Maximum: 3 mA
Impedance	4000	5000	6000	Ω	
Operating Temperature	-40		150	$^{\circ}\text{C}$	
Storage Temperature	-55		100	$^{\circ}\text{C}$	
Performance					
Offset	-10	0	10	mV/V	Zero pressure; gage only; @25 $^{\circ}\text{C}$
Non-linearity	-0.2	0	0.2	% FSO	Best Fit Straight Line; @25 $^{\circ}\text{C}$
Pressure Hysteresis	-0.1	0	0.1	% FSO	@25 $^{\circ}\text{C}$
Temp Coeff – Zero	-25	0	25	$\mu\text{V/V}/^{\circ}\text{C}$	-40 $^{\circ}\text{C}$ to 85 $^{\circ}\text{C}$
Temp Coeff – Resistance	2300	2800	3300	PPM/ $^{\circ}\text{C}$	-40 $^{\circ}\text{C}$ to 85 $^{\circ}\text{C}$
Temp Coeff – Sensitivity	-1500	-2200	-2500	PPM/ $^{\circ}\text{C}$	-40 $^{\circ}\text{C}$ to 85 $^{\circ}\text{C}$
Thermal Hysteresis	-0.2	0	0.2	% FSO	Zero pressure
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	Closed bridge only
100 psi (6.9 bar; 689 KPa)	120	150	80	mV	
500 psi (34.5 bar; 3447 KPa)	140	175	210	mV	

CROSS SECTION

ELECTRICAL

PACKAGING AND SHIPPING (millimeters)


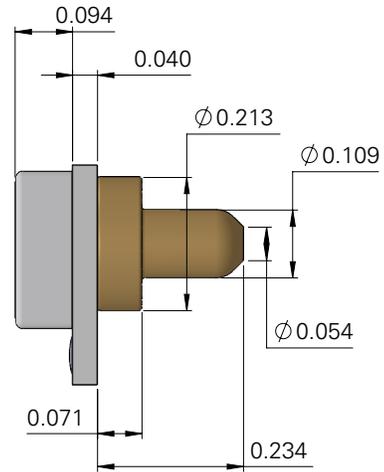
DIMENSIONS FOR STANDARD PACKAGING OPTIONS

Dimensions for reference only. Units in inches.
 Engineering drawings (with tolerance) available upon order.

Vent sticker placement performed manually.
 Sticker to cover entirety of vent hole in cap.
 Offset sticker placement acceptable



Cap placement tolerance measured from the cap Q_1 to the substrate Q_2
 Long axis: .039
 Short axis: 0.0





Merit Sensor manufactures all products in Salt Lake City, Utah, USA.



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