



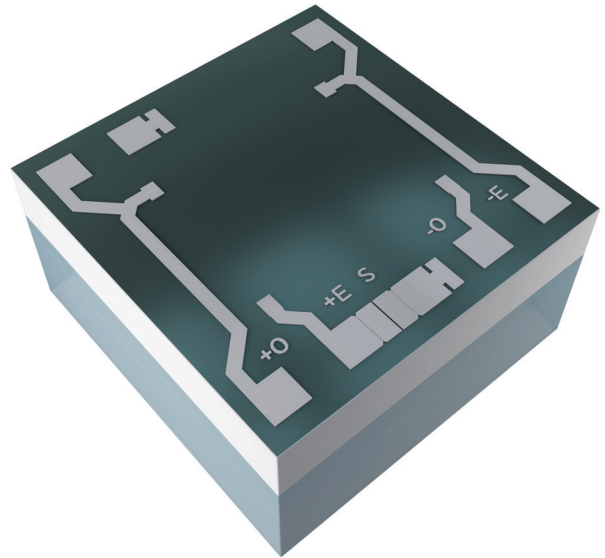
**The S Series**, designed with Merit Sensor’s new proprietary MeritUltra™ technology, is an ideal pressure-sensing solution for applications with low to medium pressure.

**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.

**MeritUltra™:** Merit Sensor’s new proprietary MeritUltra™ technology provides 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 and REACH compliant.

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



**FEATURES**

<b>Range</b>	1 to 5000 psi / 0.07 to 344.7 bar / 6.9 to 34,474 kPa
<b>Type</b>	Absolute or gage
<b>Media</b>	Clean dry air and non-corrosive gases
<b>Shipping</b>	Wafers on tape
<b>Flexibility</b>	Sensitivity, bridge resistance, half-closed and closed bridge, and bond-pad layout

**BENEFITS**

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

**S Series Part Number Configurator**

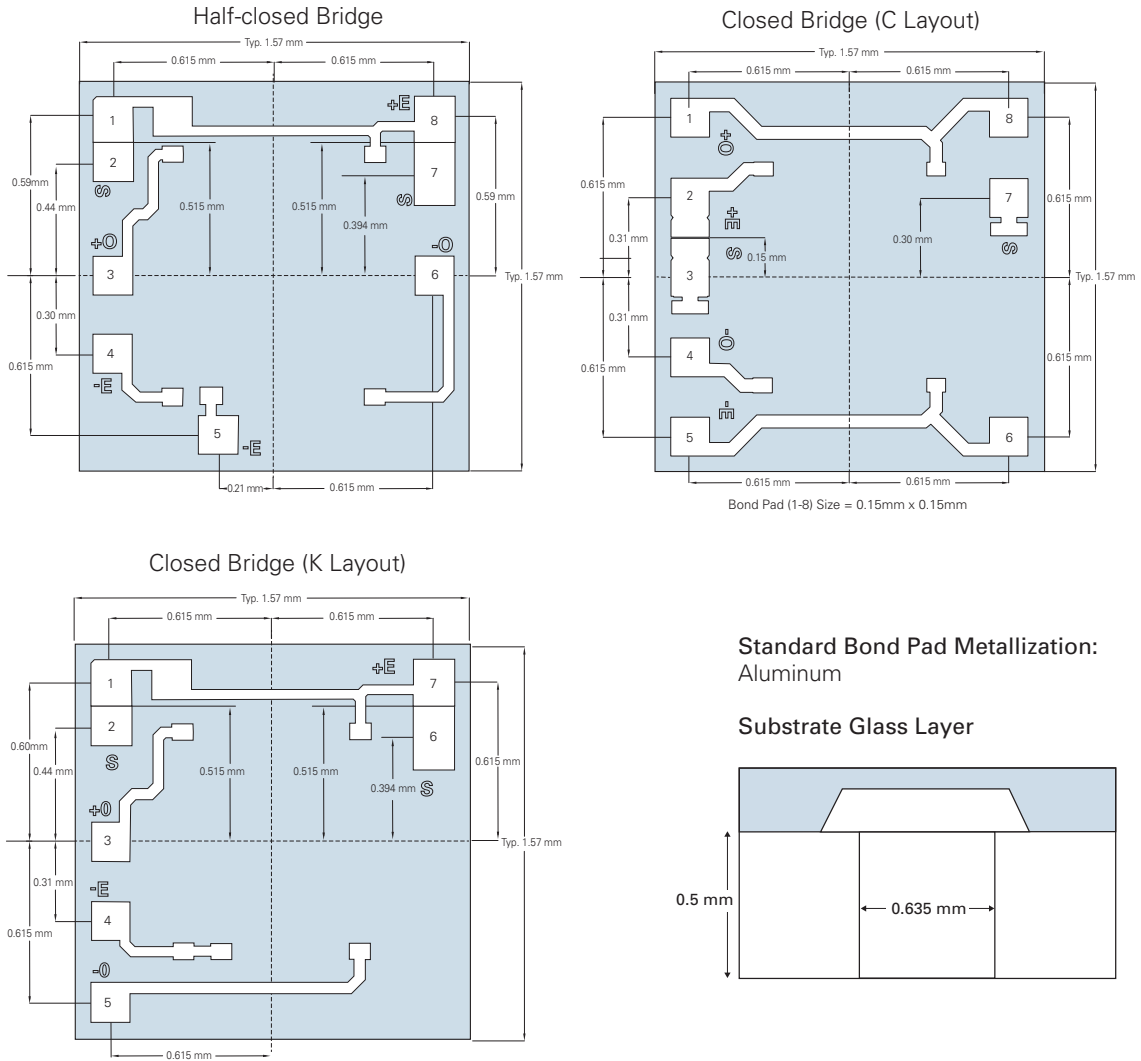
**S1** XX - XXXX - XX **T**

<p><b>Bridge</b></p> <p>H = ½ Closed C = Closed K = Closed</p> <p><b>Impedance</b></p> <p>1 = 5kohm Bridge 2 = 3.5kohm Bridge</p> <p><b>Example:</b></p> <p><b>S1C1-1333-A8T</b> offers Closed Bridge, 5kohm Bridge Impedance, 15 psi, and 0.5mm Absolute constraint</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• Maximum sensitivity for C-layout is 4000 <math>\mu\text{V/V/psi}</math></li> <li>• Only 5kohm impedance is available for C-layout</li> </ul>	<p><b>Constraint</b></p> <p>A8 = 0.5 mm Absolute B2 = 0.5 mm Gage N = No glass</p> <p><b><math>\mu\text{V/V/psi}</math></b></p> <p>5333 = 1 psi or 3 psi 4000 = 5 psi 1333 = 15 psi 0667 = 30 psi 0300 = 70 psi 0200 = 100 psi 0067 = 300 psi 0006 = 5000 psi</p>
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**SPECIFICATIONS**

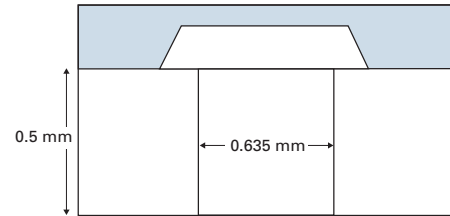
Parameter	Minimum	Typical	Maximum	Units	Notes
<b>Electrical &amp; Environmental</b>					
Excitation (+IN)		5	10	V	Maximum: 2mA
Impedance	4000	5000	6000	Ω	@25°C
Operating Temperature	-40		150	°C	MeritUltra™ technology
Storage Temperature	-55		160	°C	
<b>Performance</b>					
Offset	-10	0	10	mV/V	Zero pressure; 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	-30	0	30	μV/V/°C	-40°C to 150°C
Temp Coeff – Resistance	2000	2500	3000	PPM/°C	-40°C to 150°C
Temp Coeff – Sensitivity	-1400	-1900	-2400	PPM/°C	-40°C to 150°C
Thermal Hysteresis	-0.2	0	0.2	% FSO	Zero pressure -40°C to 150°C
Long-Term Stability	-0.2	0	0.2	% FSO	-40°C to 150°C
Burst Pressure: Backside	5X				Full-scale pressure; 4x for sensitivity 5333 μV/V/ psi
Burst Pressure: Topside	10X				Full-scale pressure
<b>Full-Scale Output (@ 5 volts excitation)</b>					
3 psi (0.2 bar; 20.7 kPa)	60	80	100	mV	Typical output at 1 psi = 26.7mV @25°C
5 psi (0.34 bar; 34 kPa)	75	100	125	mV	
15 psi (1 bar; 103 kPa)	75	100	125	mV	
30 psi (2 bar; 207 kPa)	75	100	125	mV	
70 psi (4.8 bar; 483 kPa)	75	100	125	mV	
100 psi (7bar; 670 kPa)	75	100	125	mV	
300 psi (21 bar; 2070 kPa)	75	100	125	mV	
5000 psi (344.7 bar; 34,474 kPa)	120	150	180	mV	

## DIMENSIONS (millimeters, post-cut)



Standard Bond Pad Metallization:  
Aluminum

Substrate Glass Layer



## ELECTRICAL

