MERIT SENSOR™

DATA SHEET

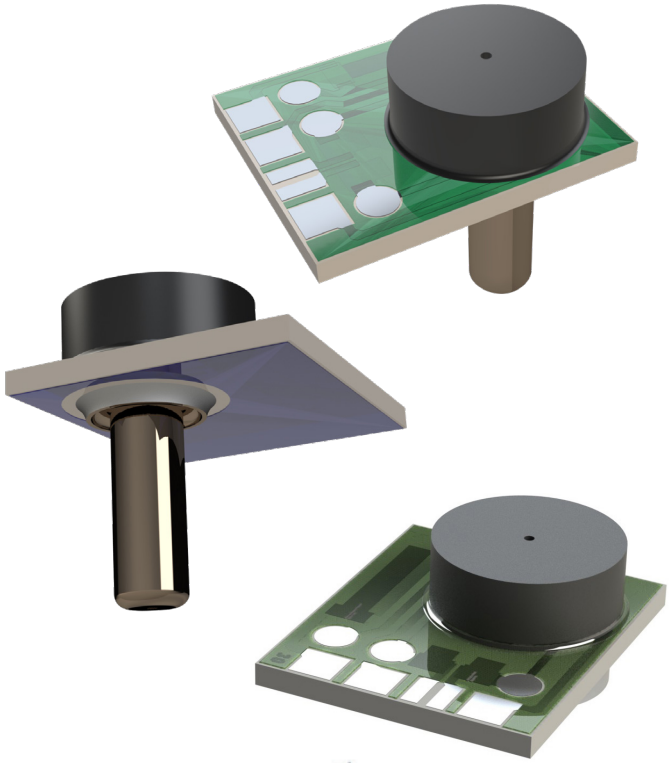
AP Series

The AP Series provides a pure analog signal excellent for high resolution and high frequency applications, and other custom circuits.

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.

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

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



RoHS Compliant

FEATURES

Ranges	0 to 1000 psi (0 to 70 bar)
Type	Gage, vacuum
Media	Air, gases and liquids

BENEFITS

Performance	Enjoy best-in-class performance due to Merit's proprietary Sentium technology.
Speed	Get to market quickly with creative and flexible solutions
Service	Experience prompt, personal, and professional support

AP SERIES Part Number Configurator

APT-XXXXG-00X-T0X

Pressure
0005 = 5 psi
0015 = 15 psi
0100 = 100 psi
0300 = 300 psi
0500 = 500 psi
1000 = 1000 psi

Reference
G = Gage

Offset Trim
1 = 6mV
3 = 2.5mV

Bottom Port
1 = Polycarb gel cup with gel
3 = Ferrule

Example: APT-0300G-001-T01 offers
300psi, Gage, Polycarb port with gel, 6mV offset

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SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Units	Notes
Electrical (22°C unless otherwise stated)					
Input Excitation	1	5	10	VDC	
Input Impedance	6000	12000	16000	ohms	
Output Impedance	4000	5000	6000	ohms	
Environmental					
Temp (Comp/Operating)	10	25	40	°C	
Temperature (Storage)	-55		60	°C	
Weight		1.17		Grams	Polycarb with gel
Performance					
Accuracy*	-2	0	2	%FSO	10° – 40°C
Burst Pressure	3X				Full scale pressure
Burst Pressure (1000 psi part)		1500		psi	

Part	Full-Scale Pressure (psi)	Offset (mV @5V)	Full-Scale Output (mV @5V)	Sensitivity (mV/V/psi)
APT-0005G-003-T03	5	2.5	50	1.900
APT-0015G-003-T03	15	2.5	50	0.633
APT-0100G-003-T03	100	2.5	100	0.195
APT-0300G-001-T01	300	6.0	98.3	0.062
APT-0300G-003-T03	300	2.5	100	0.065
APT-0500G-003-T03	500	2.5	100	0.039
APT-1000G-003-T03	1000	2.5	100	0.020

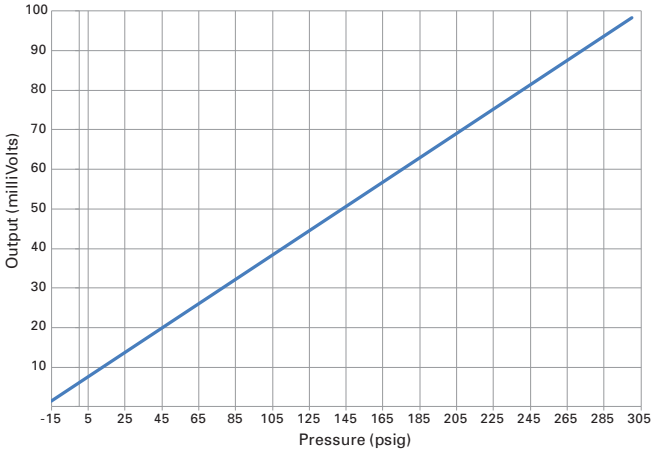
* The combined effect of Sensitivity, Nonlinearity, and Hysteresis errors over the operating temp range.

TRANSFER FUNCTION EXAMPLE

300psi T01 Transfer Function
(Sensor pn APT-0300G-001-T01):

Vout = (0.308 P) + Offset ± Error

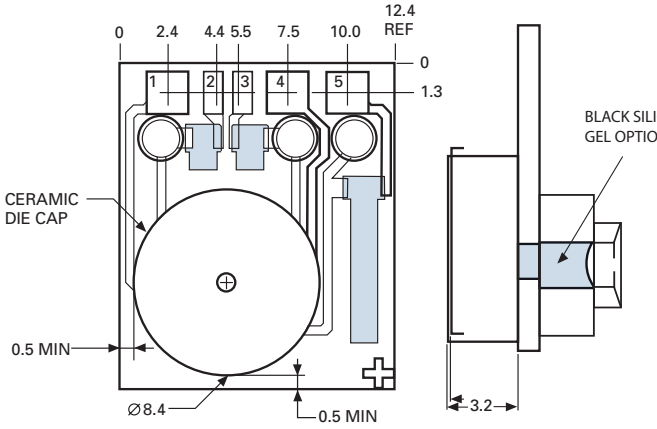
This graph assumes Offset = 6mV, error = 0mV, Vs = 5.0V, and TEMP = 25°C



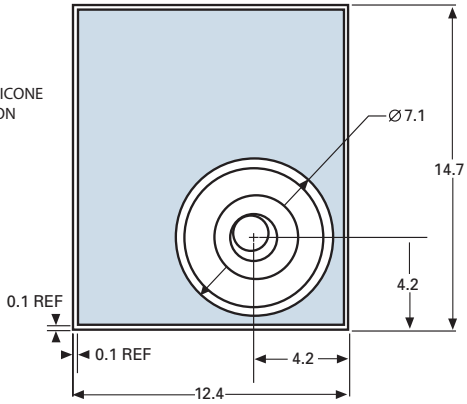
DIMENSIONS (millimeters)

Pin Out	
1	+ Out
2	- In
3	- In
4	- Out
5	+ In

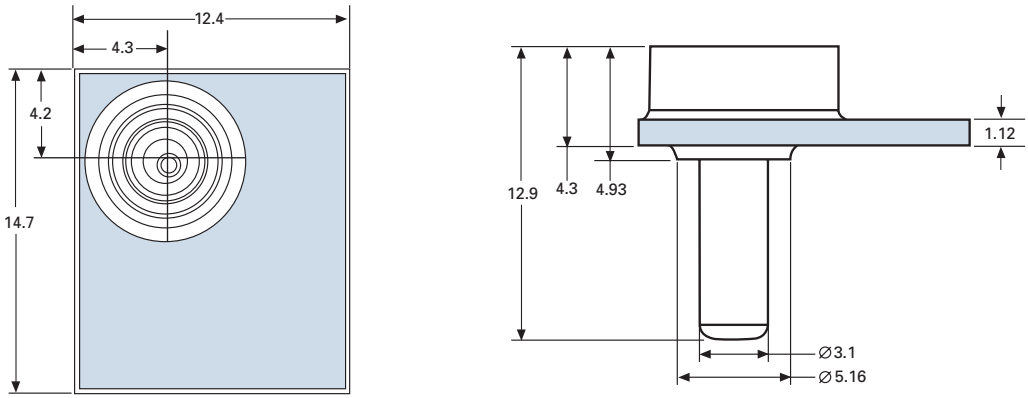
CIRCUIT SIDE VIEW



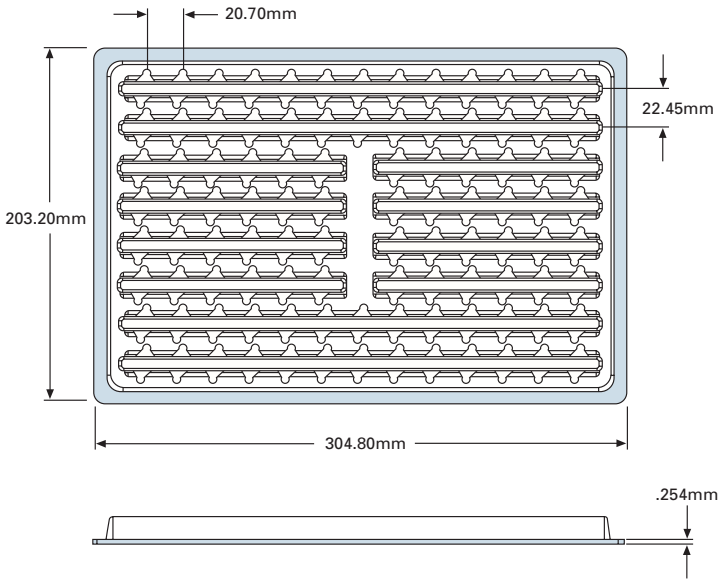
GEL SIDE VIEW



FERRULE SIDE VIEW



PACKAGING AND SHIPPING (Tray)



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