MERIT SENSOR™

DATA SHEET

AP301 Series

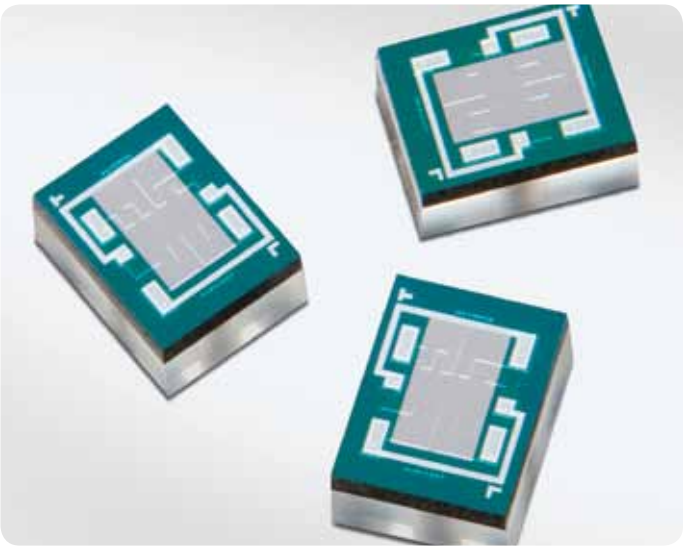
The AP301 Series is ideal for high-volume, medium-pressure OEM applications.

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, which was 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, tests, sells and services die and packaged products from a state-of-the-art facility near Salt Lake City, Utah.



FEATURES

Range	100 to 1,000 psi (6.9 to 68.9 bar; 689 to 6,895 KPa)
Type	Absolute, gage, differential and vacuum
Media	Clean, dry air and non-corrosive gases
Shipping	Wafers on tape
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

AP301 Series Part Number Configurator

XSX-XXXX-XT

Impedance
1 = 5kohm Bridge
2 = 3.5kohm Bridge

Constraint
6 = Absolute
3 = Gage

Bridge
O = Open
H = 1/2 Open
C = Closed

µV/V/psi
0300 = 100 psi
0100 = 300 psi
0070 = 500 psi
0030 = 1000 psi

Example: 1SO-0300-3T offers 5kohm Impedance, Open Bridge,100 psi and Gage Constraint

Note: "T" in part number = sawn wafer on tape in metal frame

AP301 Series Standard Part Numbers

1SO-0300-6T	1SC-0300-6T	2SH-0300-6T
1SO-0100-6T	1SC-0100-6T	2SH-0100-6T
1SO-0070-6T	1SC-0070-6T	2SH-0070-6T
1SO-0030-6T	1SC-0030-6T	2SH-0030-6T
1SO-0300-3T	1SC-0300-3T	2SH-0300-3T
1SO-0100-3T	1SC-0100-3T	2SH-0100-3T
1SO-0070-3T	1SC-0070-3T	2SH-0070-3T
1SO-0030-3T	1SC-0030-3T	2SH-0030-3T
1SH-0300-6T	2SO-0300-6T	2SC-0300-6T
1SH-0100-6T	2SO-0100-6T	2SC-0100-6T
1SH-0070-6T	2SO-0070-6T	2SC-0070-6T
1SH-0030-6T	2SO-0030-6T	2SC-0030-6T
1SH-0300-3T	2SO-0300-3T	2SC-0300-3T
1SH-0100-3T	2SO-0100-3T	2SC-0100-3T
1SH-0070-3T	2SO-0070-3T	2SC-0070-3T
1SH-0030-3T	2SO-0030-3T	2SC-0030-3T

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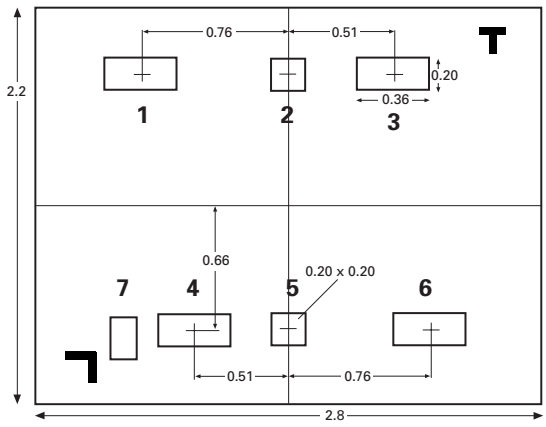
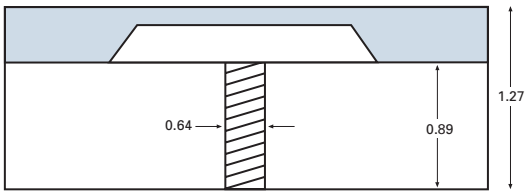
SPECIFICATIONS

Parameter	Minimum	Typical	Maximum	Units	Notes
Electrical & Environmental					
Excitation		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	-0.15	0	0.15	% FSO	Best Fit Straight Line; @25°C
Pressure Hysteresis	-0.05	0	0.05	% 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
Thermal Hysteresis	-0.1	0	0.1	% FSO	Zero pressure
Long-Term Stability	-0.1	0	0.1	% FSO	
Burst Pressure	3X				Full scale pressure
Full-Scale Output (@ 5 volts)					
100 psi (6.9 bar; 689 KPa)	125	150	175	mV	Other outputs available upon request
300 psi (20.7 bar; 2,068 KPa)	120	150	180	mV	
500 psi (34.5 bar; 3,447 KPa)	150	175	200	mV	
1000 psi (68.9 bar; 6,895 KPa)	125	150	175	mV	

DIMENSIONS (millimeters, post-cut)

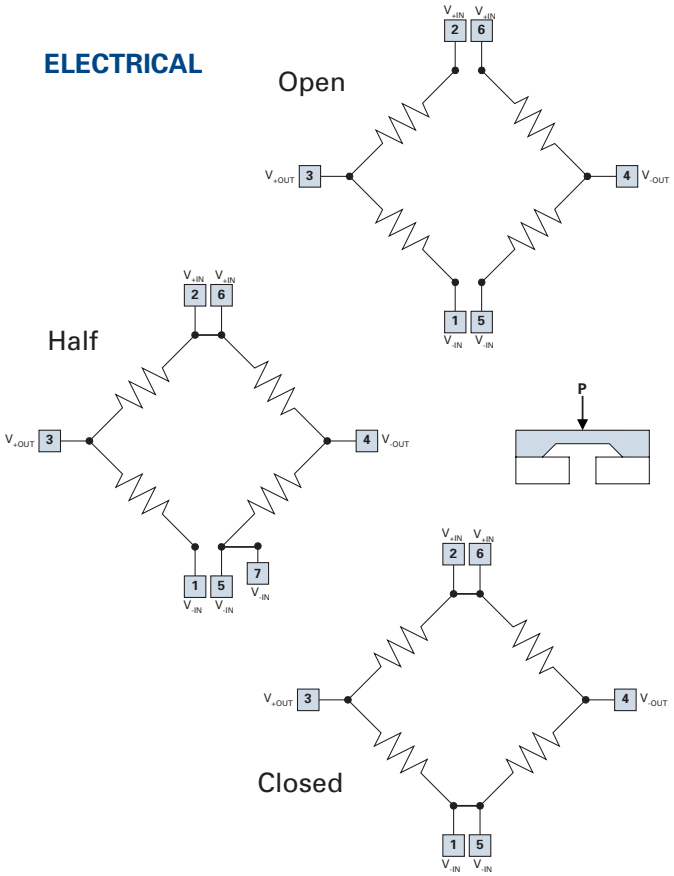


Standard Bond Pad Metallization = Aluminum



Absolute also; other constraints available

ELECTRICAL



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