

ABP310 Low TCS Series Blood Pressure Sensor

DESCRIPTION

The ABP310 Blood Pressure Sensor series are designed for low temperature coefficient of span (TCS) requirement (TCS <1.3% over 0~70°C) without the need of external off-chip temperature compensation techniques. The sensor die has a nitride passivation layer to protect the metal lines from any effects arising from exposed environment. The ABP310 DIP, SMT packaged sensors are protected with additional die coating to enhance harsh environmental durability. The ABP310 series provide comparable or even superior performance compared to other popular available Blood Pressure Sensors; yet at very competitive prices.

The ABP310 pressure sensor is ideal to replace popular blood pressure sensor such as ADP41A23, ADP42A23 series. The ABP310 sensor provides exactly the same bridge resistance of 3.3 KΩ, and 43mv output span in the pressure range of 0~300mmHg (40kPa).

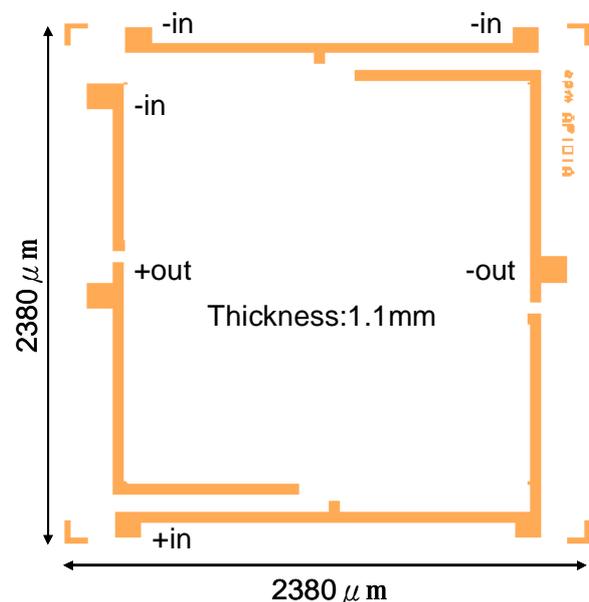
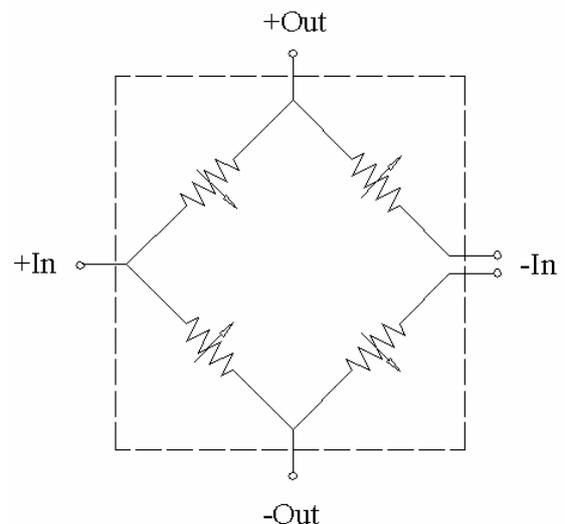
The ABP311 pressure sensor is ideal to replace other popular blood pressure sensor such as ADP41320, ADP42320 series. The ABP311 sensor provides bridge resistance of 5 KΩ, and output span of 80mv for pressure range of 0~367.5mmHg (49kPa).

The ABP315 pressure sensor aims for low TCS and high span applications. It has 5 KΩ bridge resistance with 90mv output span for pressure range of 0~300mmHg (40kPa).

The ABP311, ABP315 pressure sensors are ideal to replace popular pressure sensor such as FGN-05PG FGN-07PG series. These products are also suitable for 15PSI gauge type applications.

FEATURES

- Low TCS over 0~70°C, no need of off-chip external compensations.
- Metal lines protected with nitride passivation.
- DIP, SMT packaged with die coating additional protection.
- Superior performance at competitive price.
- Suitable for 15PSI gauge pressure applications.



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ABP310 Serials Specifications

Parameter	Value			Units			Notes
General							
Product Type	ABP310	ABP311	ABP315				
Pressure range	300(40)	367.5(49)	300(40)	mmHg(kPa)			3
Maximum Overpressure	3X						rated pressure
Electrical @25°C (77°F) unless otherwise specified							
Excitation	1.5	1.5	1.5	mA	mA	mA	
Input Impedance	3.3±0.6	5±1	5±1	kΩ			
Output Impedance	3.3±0.6	5±1	5±1	kΩ			
Environmental							
Operating Temperature Range	-20~+100			°C			-4 °F ~+212°F
Storage Temperature Range	-40~+125			°C			-40 °F ~+257 °F
Mechanical							
Weight	<1.0			grams			
Media Compatibility	Clean, dry air & noncorrosive gases						
Performance⁽¹⁾							
Zero Offset	±15	±15	±15	mV			
Span	43±22	80±30	90±30	mV			
Bridge Resistance	3300±600	5000±20%	5000±20%	Ω			
Linearity	±0.3			% Span			2
Hysteresis	±0.7			% Span			
Temperature Coefficient of Zero Offset	±1.6%	±1.6%	±1.6%	% Span			0~70°C
Temperature Coefficient of Span	±1.3(±0.065)			%Span(% Span/°C)			0~70°C
Notes: 1. All values are Minimum/Maximum and are measured at 25 °C unless otherwise specified.							
2. Best fit straight line.							
3. 300mmHg = 5.8PSI = 40 KPa, 367.5mmHg = 49KPa, 1atm = 14.7psi							

HOW TO ORDER

Die Part Number:

ABP310-0H-73-00

3.3KΩ, with glass base, span 43mv (40kPa), -----span 108mv (14.7psi)

ABP311-0H-80-00

5KΩ, with glass base, span 80 mv(49kPa), -----span 160mv (14.7psi)

ABP315-0H-80-00

For high span application. 5KΩ, with glass base, span 90 mv (40kPa)

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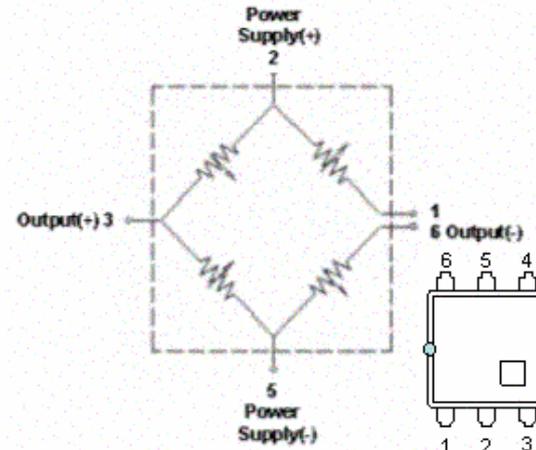
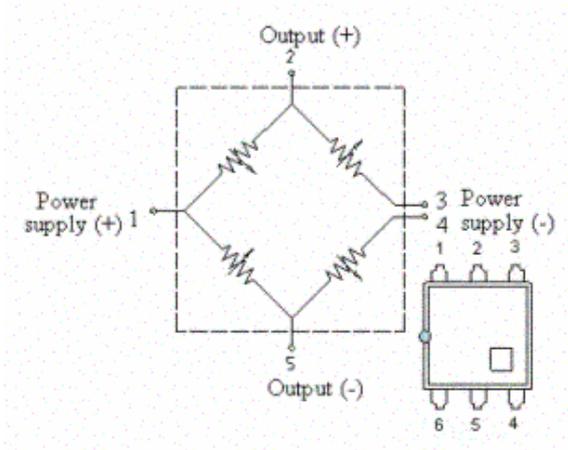


SMT Pressure Sensor



ADP4 Compatible

FGN, ADP1 Compatible



HOW TO ORDER

ABP310-UH-73-0N
ABP311-UH-80-0N
ABP315-UH-80-0N

HOW TO ORDER

ABP310-UH-73-0F
ABP311-UH-80-0F
ABP315-UH-80-0F

Part Number:

ABP310---3.3K Ω , with glass base, span 43mv (40kPa), -----span 108mv (14.7psi)

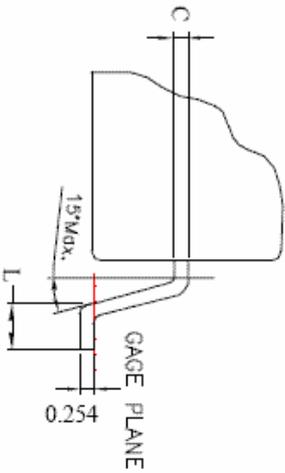
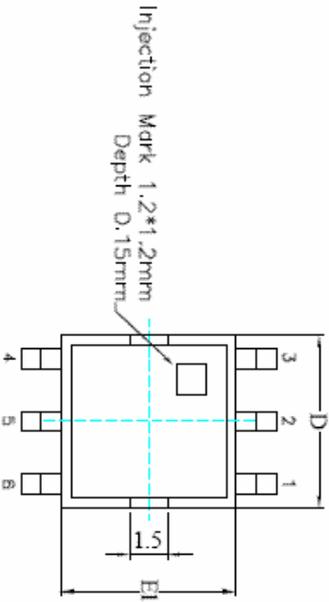
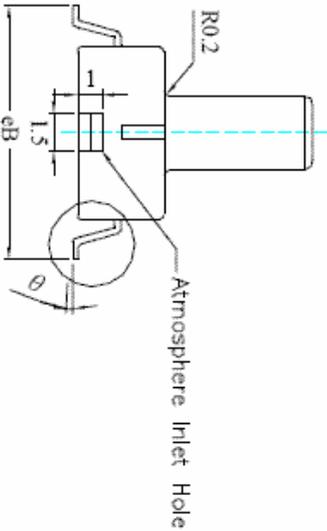
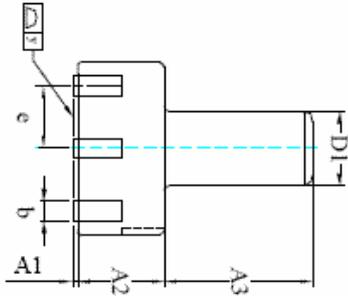
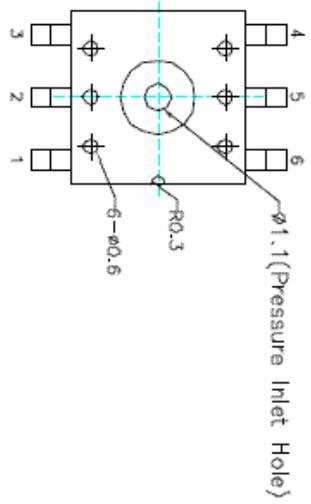
ABP311---5K Ω , with glass base, span 80 mv(49kPa), -----span 160mv (14.7psi)

ABP315---For high span application. 5K Ω , with glass base, span 90 mv (40kPa)

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PACKAGE DIAGRAM



- NOTE :
1. CONTROLLING DIMENSION : mm
 2. MATERIAL :
 - a. LEAD FRAME MATERIAL : C194
 - b. INJECTION MOLDING MATERIAL : PPAS050(BLACK)
 3. DIMENSION D AND E1 DO NOT INCLUDE MOLD FLASH OR PROTRUSIONS, MOLD FLASH OR PROTRUSIONS SHALL NOT EXCEED 0.010 [0.25mm]
 4. DIMENSION "b" DOES NOT INCLUDE DAMBAR PROTRUSION, ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.003 [0.08mm] TOTAL IN EXCESS OF THE "b" DIMENSION AT MAXIMUM MATERIAL CONDITION. DAMBAR CANNOT BE LOCATED ON THE LOWER RADIUS OF THE FOOT. MINIMUM SPACE BETWEEN PROTRUSION AND AN ADJACENT LEAD TO BE 0.0228 [0.07mm]
 5. TOLERANCE : $\pm 0.01 \phi$ [0.25mm] UNLESS OTHERWISE SPECIFIED.
 6. OTHERWISE DIMENSION FOLLOW ACCEPTABLE SPEC.

SYMBOLS	DIMENSIONS IN MILLIMETERS		
	MIN	NOM	MAX
A1	0.10	—	0.25
A2	3.40	3.50	3.60
A3	5.90	6.00	6.10
b	0.70	0.80	0.90
C	0.20	0.25	0.30
D	6.90	7.00	7.10
D1	2.90	3.00	3.10
E1	6.90	7.00	7.10
e	—	2.54	—
ϕB	10.1	10.3	10.5
L	0.41	0.8	1.27
Y	—	—	0.08
θ	0°	—	8°

Asia Pacific Microsystems, Inc.				VER.	B
Part ID	N/A	Scale	N/A	Unit	mm
Package type	SMDF	Sheet	1/1	Case	
Title	Outline Drawing	Date	12/24/03	Drawn by	Wan
Drawing NO	-A005SMTCC0000001	Check by	Kan	Appr by	Wan

