



### CPX15AF



**Pressure Sensors: Measurement Type: Absolute; Signal Conditioning: Unamplified; Pressure Range: 2.0 psia to 15.0 psia; Port Style: Barbed**

*Actual product appearance may vary.*

#### Features

- Low Cost, Small Size
- Temperature Compensated
- Zero and Span Calibrated
- MilliVolt Output
- Differential, Gage and Absolute Pressure
- Constant Voltage Excitation
- High Impedance - Low Current

#### Potential Applications

- Medical Applications
- Applications Requiring Small Size
- Applications Requiring Vacuum Reference

#### Description

The CPC and CPX Series sensors integrate silicon micromachined sensing technology, temperature compensation, and calibration in a complete family of low cost packages. This series offers the most cost-effective solution for design requirements. These piezoresistive pressure sensors use micromachined silicon chips mounted on a ceramic and protected with a plastic cap. Several tube arrangements with nylon housings are available for various pressure applications. On devices of 5 psi and above, the topside of the chip is protected against humidity by a Silgel coating. While the sensors are designed for use with noncorrosive, nonionic pressure media, they accommodate many gases that are used in medical applications. The CPC Series is designed for the lowest cost and smallest profile. The standard packages have only a plastic cap for OEM applications. The CPC...F accommodates pressure measurements in tube applications.

Product Specifications	
Measurement Type	Absolute
Signal Conditioning	Unamplified
Pressure Range	2.0 psia to 15.0 psia
Maximum Overpressure	45.0 psia
Supply Voltage	3.0 Vdc min., 12.0 Vdc typ., 16.0 Vdc max.
Compensated	No
Output Calibration	No
Termination	PCB
Port Style	Barbed

Package Style	Honeywell DI-CPX
Typical Sensitivity	42 mV/psi
Full Scale Span	252 mV typ.
Null Offset	0 mV typ.
Null Shift over Temperature	2600 ppm/°C
Span Shift Over Temperature	-1800 ppm/°C
Linearity, Hysteresis Error	± 0.5 % Span
Operating Temperature Range	-25 °C to 85 °C [-13 °F to 185 °F]
Compensated Temperature Range	0 °C to 70 °C [32 °F to 158 °F]
Storage Temperature Range	-40 °C to 125 °C [-40 °F to 257 °F]
Media Compatibility	Port 1: Dry gases only. Media must be compatible with epoxy-based adhesive. Port 2: Wetted materials. Media must be compatible with nylon housing, epoxy adhesive and silicon.
UNSPSC Code	411121
UNSPSC Commodity	411121 Transducers
Availability	Global
Series Name	CPX

REV	DOCUMENT	CHANGED BY	CHECK
3	0033382	AB	30AUG07

**CPX**

**SERIES** \_\_\_\_\_

**DESIGNATES PRESSURE**

- NO DESIGNATION (PSI)

**PRESSURE RANGE**

05, 15, 30,  
60, 100, 150 PSIA

**ACCURACY GRADE**

**C** - COMMERCIAL GRADE  
- NO DESIGNATION  
COMMERCIAL GRADE

**PORT OPTION**

**F** - AXIAL  
- NO PORT/O-RING SEAL

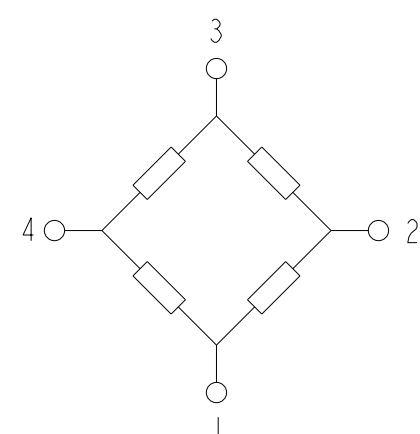
**PRESSURE REFERENCE**

**A** - ABSOLUTE

CATALOG LISTINGS	
②	
CPX15AF	
②	
③	
③	

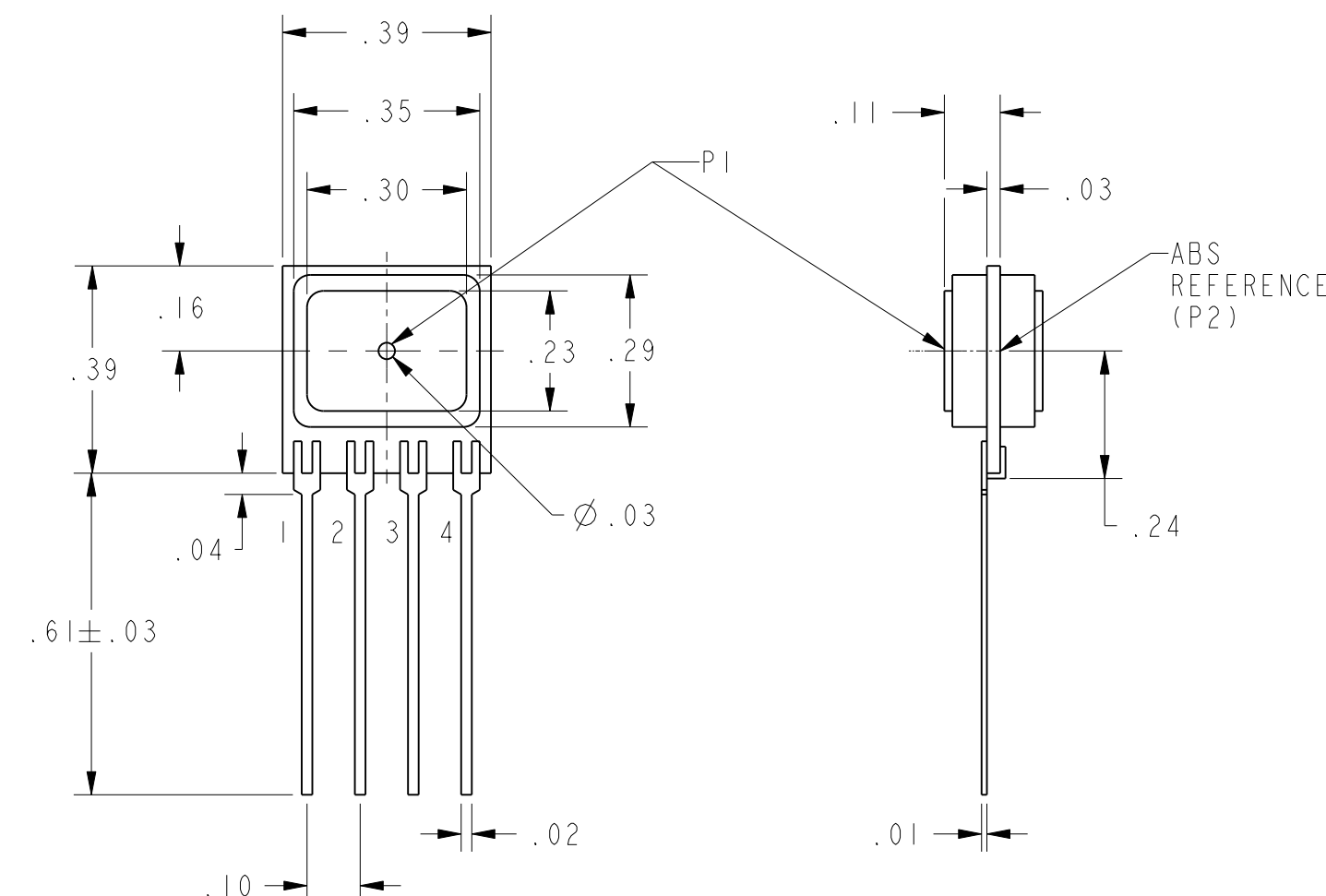
CPX A STYLE (ABSOLUTE)	PERFORMANCE AT 25°C AND 5±0.01 Vdc (UNLESS OTHERWISE STATED)						
	C-GRADE			UNITS	FULL SCALE PRESSURE PSI	PROOF PRESSURE PSI	BURST PRESSURE PSI
	MIN	NOM	MAX				
OFFSET (0 PSIA) (FOR ALL ABSOLUTE LISTINGS)	-50	0	50	mV			
5 PSIA SPAN (P1>P2)	112	168.5	225	mV	5	15	25
15 PSIA SPAN (P1>P2)	168	253	338	mV	15	45	75
30 PSIA SPAN (P1>P2)	168	253	338	mV	30	90	150
60 PSIA SPAN (P1>P2)	189	263.5	338	mV	60	180	300
100 PSIA SPAN (P1>P2)	210	295	380	mV	100	250	400
150 PSIA SPAN (P1>P2)	187	262.5	338	mV	150	250	400
TEMPERATURE CHANGE BRIDGE RESISTANCE	---	2600	---	ppm/°C			
TEMPERATURE CHANGE SPAN	---	-1800	---	ppm/°C			
COMBINED LINEARITY AND HYSTERESIS <sup>②</sup>	---	---	1	% SPAN			

GENERAL OPERATING CHARACTERISTICS	ALL PRESSURES AND GRADES			
	MIN	NOM	MAX	UNITS
EXCITATION VOLTAGE	---	5	12	Vdc
INPUT RESISTANCE	---	3000	---	OHMS
OUTPUT RESISTANCE	---	3000	---	OHMS
OPERATING TEMPERATURE	-25	25	85	°C
STORAGE TEMPERATURE	-40	---	125	°C

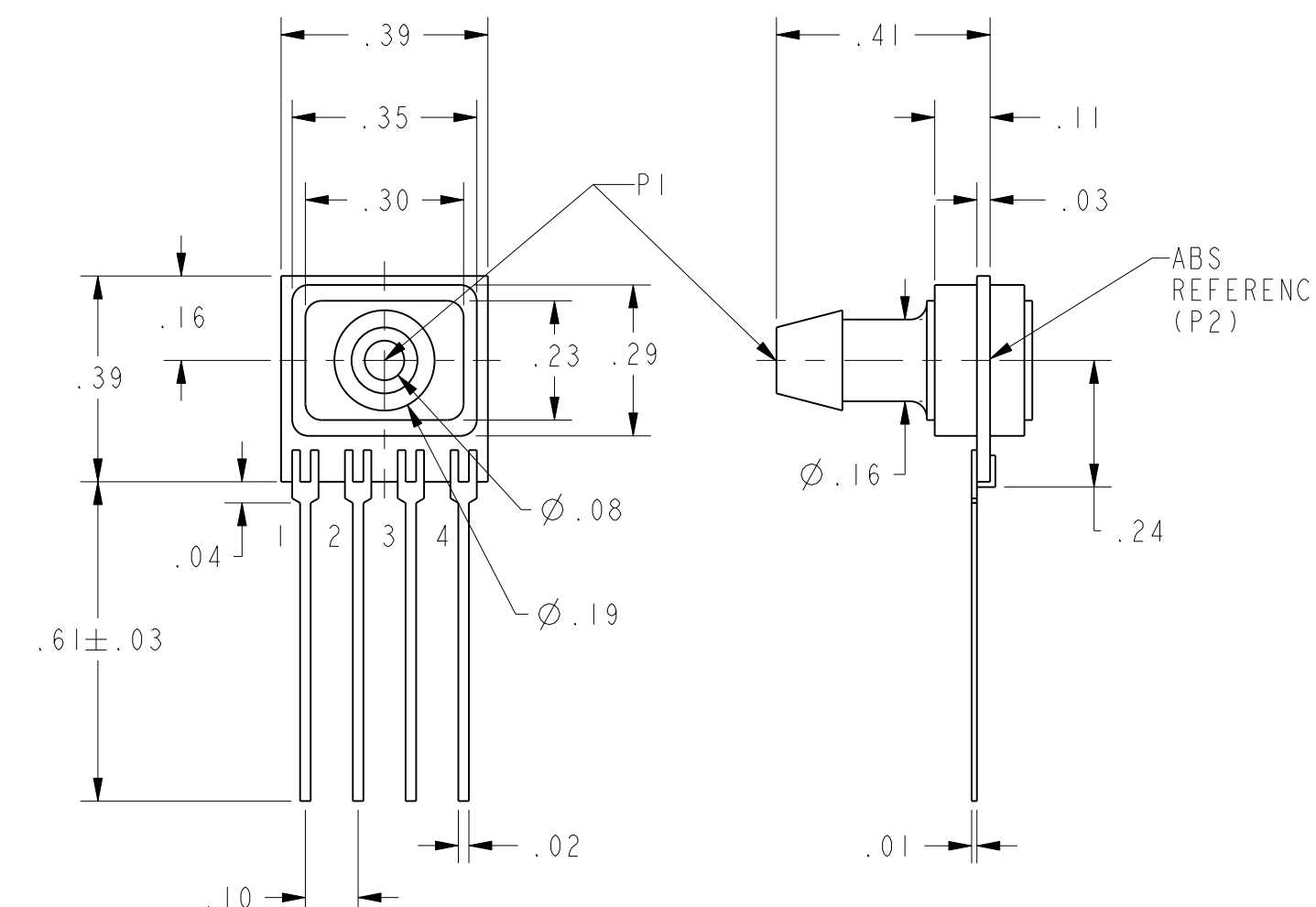


EQUIVALENT CIRCUIT

PIN OUT	
1	-V EXCITATION
2	+ OUTPUT SIGNAL
3	+ V EXCITATION
4	- OUTPUT SIGNAL



A HOUSING



AF HOUSING

NOTES

- 1 - SPAN IS THE ALGEBRAIC DIFFERENCE BETWEEN THE OUPUT AT FULL SCALE PRESSURE AND THE OFFSET OUTPUT
- <sup>②</sup> LINEARITY IS MEASURED AT 1/2 FULL SCALE PRESSURE USING BEST STRAIGHT LINE FIT
- 3 - THE OUTPUT OF THE SENSOR IS PROPORTIONAL, RATIOMETRIC, TO THE EXCITATION VOLTAGE. ALL SPECIFICATIONS WILL NOMINALLY BE CHANGED BY THE RATIO OF V<sub>EXCITATION</sub>/5.0 Vdc
- 4 - LIMIT SOLDERING TO 315°C FOR LESS THAN 10 SECONDS
- 5 - APPLYING PRESSURE TO PORT INDICATED ON THE DRAWINGS SHOWN
- 6 - SENSORS ARE OPERATIONAL OVER VACUUM PRESSURE RANGE
- 7 - P1 INPUT MEDIA RESTRICTED TO DRY GASES ONLY

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:	<input checked="" type="checkbox"/> US (inch) CUSTOMARY	<input type="checkbox"/> SI (mm) METRIC	DRAWN	TRF	19MAR01	<b>Honeywell</b>		
NO PLACE	X	±.040 ±1	CHECK	SAV	19MAR01			
ONE PLACE	.X	±.030 ±0,4	THIS DRAWING COVERS A PROPRIETARY ITEM AND IS THE PROPERTY OF HONEYWELL. THIS DRAWING IS NOT TO BE COPIED OR USED WITHOUT THE PERMISSION OF HONEYWELL.			TITLE		
TWO PLACE	.XX	±.015 ±0,15				PRESSURE SENSOR		
THREE PLACE	.XXX	±.005 ±				SIZE	DWG TYPE	DRAWING NAME
ANGLES	±	±				<b>C</b>	<b>I</b>	<b>CPX ABS SERIES CHART 1</b>
RAW MATERIAL-COMMERCIAL STANDARD	±	±	3D PTC	ASME Y14.5M-1994	SCALE	3:1		
THIRD ANGLE PROJECTION					WEIGHT	SHEET 1 OF 1		
						REV		
						<b>3</b>		