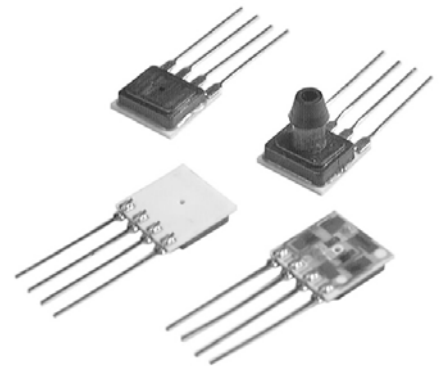


## CPC/CPCL Series and CPXL Series

### Compensated/Calibrated and Uncompensated/Uncalibrated Board Mount Pressure Sensors



#### DESCRIPTION

The CPC/CPCL Series and the CPXL 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.

#### 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

On devices of 5 psi and above, the top side of the chip is protected against humidity by a Silgel coating. While the sensors are designed for use with non-corrosive, 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 axial port option accommodates pressure measurements in tube applications.

#### POTENTIAL APPLICATIONS

- Medical applications
- Applications requiring small size
- Applications requiring vacuum and positive pressure reference, or both

# CPC/CPCL Series and CPXL Series

**Table 1. Electrical Specifications**

Characteristic	CPC/CPCL at 12 Vdc, 25 °C [77 °F]			CPXL at 5 Vdc, 25 °C [77 °F]			Unit
	Min.	Typ.	Max.	Min.	Typ.	Max.	
Excitation voltage	3.0	12.0	16.0	3.0	5.0	12.0	Vdc
Null	except CPCL04	-1.0	0	1.0	-50	0	50
	CPCL04 only	-2.0	0	2.0			
Offset temperature shift <sup>1</sup> 0 [C] to 25 [C] [32 [F] to 77 [F] 25 [C] to 70 [C] [77 [F] to 158 [F] <sup>2</sup>	-	-	±1.0	-	±0.5	-	mV
Full scale temperature shift: 0 [C] to 25 [C] [32 [F] to 77 [F] 25 [C] to 70 [C] [77 [F] to 158 [F]	-	-	±2 % span	-	-2200 PPM/[C]	-	-
Linearity, hysteresis error <sup>3</sup>	-	0.25	1.0	-	0.25	1.0	% span
Input resistance	5.0	-	-	-	3.0	-	kOhm
Output resistance	-	3.0	-	-	3.0	-	kOhm
Operating temperature	-25 [-13]	-	85 [185]	-25 [-13]	-	85 [185]	[C] [F]
Storage temperature	-40 [-40]	-	125 [257]	-40 [-40]	-	125 [257]	[C] [F]
Common mode pressure	-	-	50	-	-	50	psi
Weight	-	2	-	-	2	-	g

**Notes:**

1. Pressure specs obtained with pressure applied to the front of the sensor.
2. Shift is relative to 25 °C [77 °F].
3. Measured at 1/2 full scale rated pressure using BFSL.

**Table 2. Absolute Output**

FS Pressure	CPC at 12 Vdc, 25 °C [77 °F] Output Full Scale Span (mV)			Overpressure (psi)
	Min.	Max.	Max.	Max.
15 psi	85	90	95	45
30 psi	85	90	95	90
60 psi	85	90	95	180
100 psi	95	100	105	250

**Table 3. Gage/Differential<sup>1</sup> Output**

FS Pressure	CPC/CPCL at 12 Vdc, 25 °C [77 °F] Output Full Scale Span (mV)			CPXL at 5 Vdc, 25 °C [77 °F] Output Full Scale Span (mV)			Overpressure (psi)
	Min.	Typ.	Max.	Min.	Typ.	Max.	Max.
4 inH <sub>2</sub> O	23	25	27	50	68	86	3
10 inH <sub>2</sub> O	19	20	21	45	78.5	112	5
1 psi	17	18	19	40	75	110	5
5 psi	57	60	63	112	168.5	225	15
15 psi	85	90	95	168	253	338	45
30 psi	85	90	95	168	253	338	90
60 psi	85	90	95	189	263.5	338	180
100 psi	95	100	105	210	295	380	250
150 psi	85	90	95	187	262.5	338	250

**Note:**

1. Differential common mode pressure should not exceed 50 psi.

# Compensated/Calibrated and Uncompensated/Un calibrated Board Mount Pressure Sensors

Figure 1. Mounting Dimensions (For reference only: mm (in).)

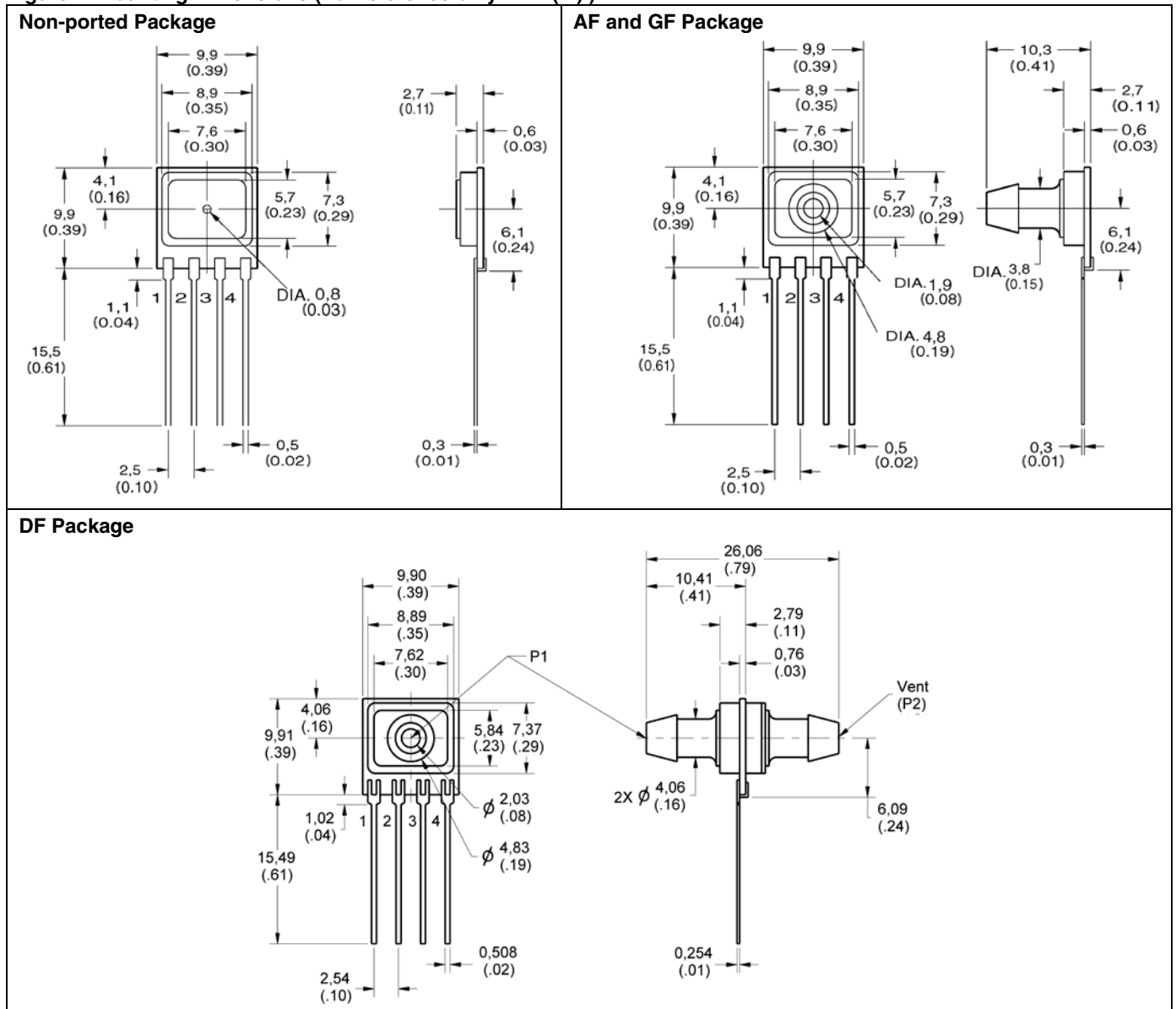
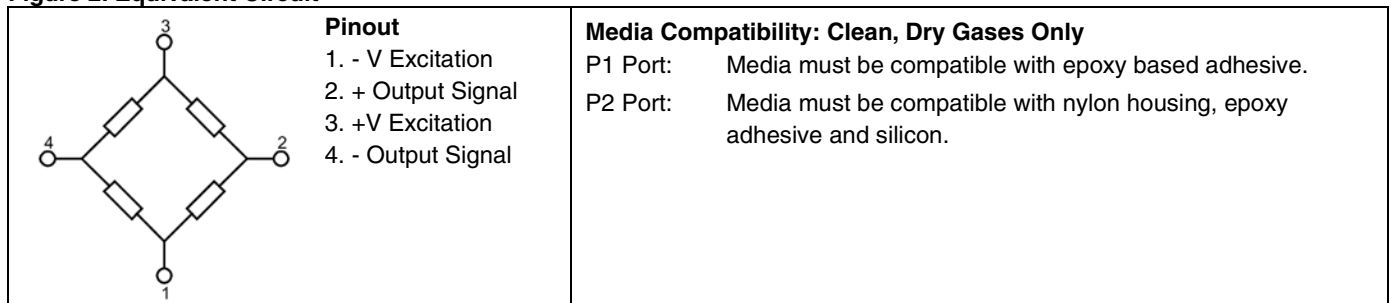
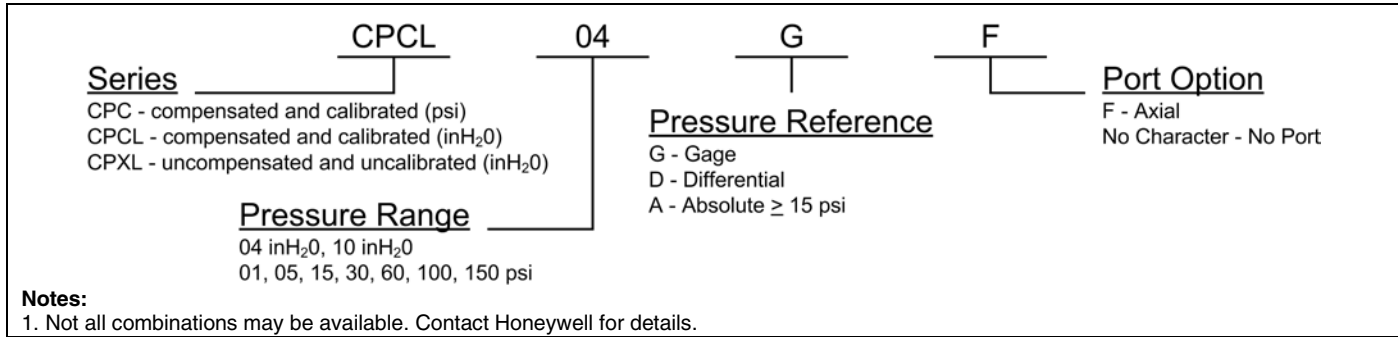


Figure 2. Equivalent Circuit



## Order Guide<sup>1</sup>



### **WARNING**

#### **PERSONAL INJURY**

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

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- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**

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