



CPC05GFC



Pressure Sensors: Measurement Type: Gage, Vacuum Gage; Signal Conditioning: Unamplified; Pressure Range: ± 5.0 psi; Port Style: Barbed; Commercial Grade

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	Vacuum Gage, Gage
Signal Conditioning	Unamplified
Pressure Range	± 5.0 psi
Maximum Overpressure	15.0 psi
Supply Voltage	3.0 Vdc min., 12.0 Vdc typ., 16.0 Vdc max.
Compensated	Yes
Output Calibration	Yes
Termination	PCB
Port Style	Barbed

Package Style	Honeywell DI-CPC
Typical Sensitivity	12 mV/psi
Full Scale Span	60 mV typ.
Null Offset	0 mV typ.
Null Shift over Temperature	± 1.0 mV typ.
Span Shift Over Temperature	± 2.0% span
Linearity, Hysteresis Error	± 0.25 % typ. ± 1 % max. Span
Input Resistance	5.0 kOhm min.
Output Resistance	3.0 kOhm typ.
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	CPC

REV	DOCUMENT	CHANGED BY	CHECK
14	0038162	BS 24MAR08	ASD

SERIES ——— **CPC** ——— **G** ———

DESIGNATES PRESSURE

L - LOW PRESSURE (IN H₂O)
 - NO DESIGNATION (PSI)

PRESSURE RANGE

04, 10 IN H₂O
0.3, 01, 05, 15, 30,
60, 100, 150 PSI

ACCURACY GRADE

C - COMMERCIAL GRADE
H - HIGH GRADE

PORT OPTION

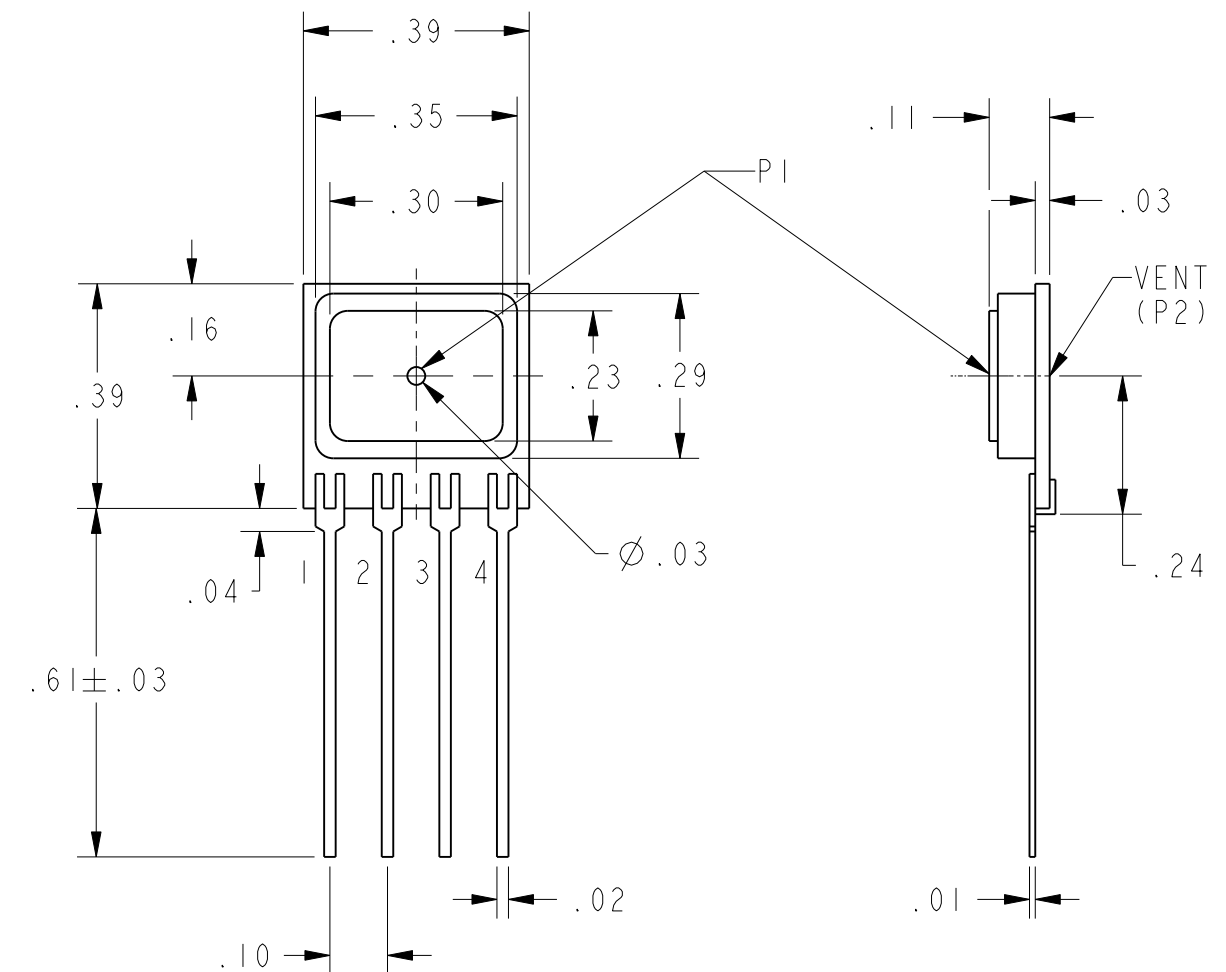
F - AXIAL
 - NO PORT/O-RING SEAL

PRESSURE REFERENCE

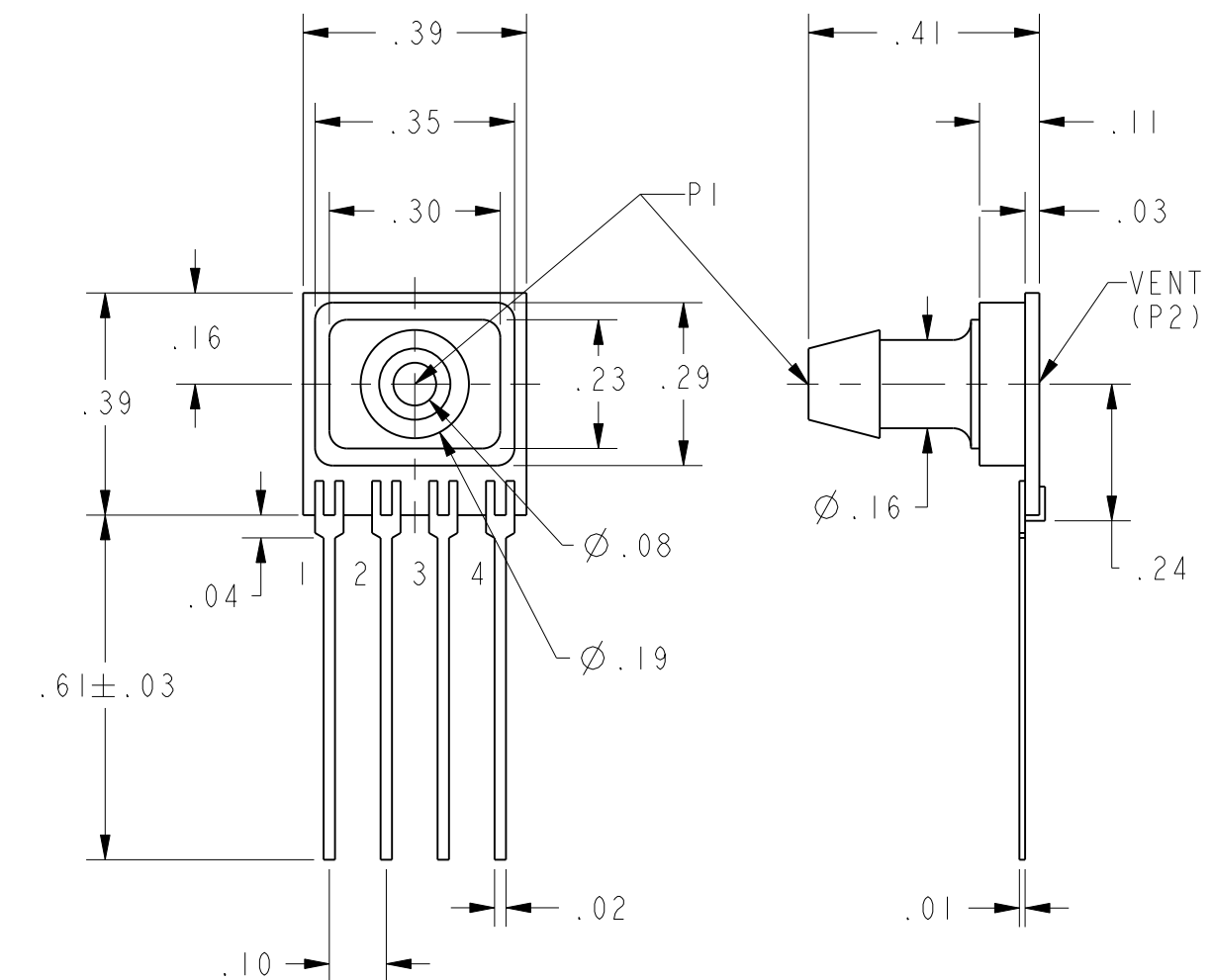
G - GAGE

CATALOG LISTINGS	
CPCL04GC	CPC15GFC
CPCL04GFC	CPC15GFH
CPCL10GFC	⑨
CPCL10GFH	CPC30GFC
CPCL10GH	CPC30GFH
⑩	CPC60GFH
CPC0.3GFC	⑨
CPC0.3GFH	CPC60GFC
CPC01GFC	CPC100GFH
CPC01GFH	CPC100GC
CPC01GH	CPC100GFC
CPC05GC	CPC150GFC
CPC05GFC	CPC150GFH
CPC05GFH	SCDA121 CPCL04GFC
CPC05GH	

G - STYLE (GAGE)	PERFORMANCE AT 25°C AND 12±0.01 Vdc (UNLESS OTHERWISE STATED)						UNITS	FULL SCALE PRESSURE PSI	OVER PRESSURE PSI
	C-GRADE			H-GRADE					
	MIN	NOM	MAX	MIN	NOM	MAX			
NULL OFFSET (0 PSIG) (L04 LISTING)	-2	0	2	N/A	N/A	N/A	mV		
NULL OFFSET (0 PSIG), ALL LISTINGS EXCEPT L04	-1	0	1	-0.5	0	0.5	mV		
4 IN H ₂ O (P1>P2) (L04 LISTING)	23	25	27	N/A	N/A	N/A	mVdc	4 IN H ₂ O 3	
4 IN H ₂ O (P1>P2) (SCDA121 CPCL04GFC)	23	25	27	N/A	N/A	N/A	mVdc	4 IN H ₂ O 5	
10 IN H ₂ O (P1>P2) (L10 LISTING)	19	20	21	19.5	20	20.5	mVdc	10 IN H ₂ O 5	
0.3 PSI SPAN (P1>P2)	19	20	21	19.5	20	20.5	mVdc	0.3 5	
1 PSI SPAN (P1>P2)	17	18	19	17.5	18	18.5	mVdc	1 5	
5 PSI SPAN (P1>P2)	57	60	63	59	60	61	mVdc	5 15	
15 PSI SPAN (P1>P2)	85	90	95	89	90	91	mVdc	15 45	
30 PSI SPAN (P1>P2)	85	90	95	89	90	91	mVdc	30 90	
60 PSI SPAN (P1>P2)	85	90	95	89	90	91	mVdc	60 180	
100 PSI SPAN (P1>P2)	95	100	105	99	100	101	mVdc	100 250	
150 PSI SPAN (P1>P2)	85	90	95	89	90	91	mVdc	150 250	
NULL SHIFT OVER TEMPERATURE (0-25, 25-70 °C) ² / ₁₀	---	---	±1	---	---	±.5	mV		
SPAN SHIFT OVER TEMPERATURE (0-25, 25-70 °C) ² / ₁₀	---	---	±2	---	---	±1	% SPAN		
COMBINED LINEARITY AND HYSTERESIS ³	---	0.25	1	---	0.25	0.5	% SPAN		

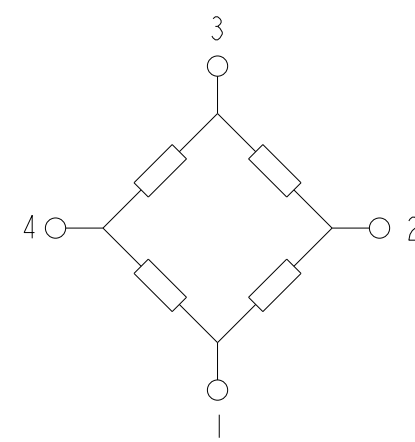


G HOUSING



GF HOUSING

GENERAL OPERATING CHARACTERISTICS	ALL PRESSURES AND GRADES			UNITS
	MIN	NOM	MAX	
EXCITATION VOLTAGE	3	12	16	Vdc
SUPPLY CURRENT	---	---	3.5	mA
INPUT RESISTANCE	5	---	---	K-OHMS
OUTPUT RESISTANCE	---	3	---	K-OHMS
OPERATING TEMPERATURE	-25	---	85	°C
STORAGE TEMPERATURE	-40	---	125	°C



EQUIVALENT CIRCUIT

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

NOTES

- 1 - SPAN IS THE ALGEBRAIC DIFFERENCE BETWEEN THE OUTPUT AT FULL SCALE PRESSURE AND THE OFFSET OUTPUT
- ² TEMPERATURE ERROR IS CALCULATED WITH RESPECT TO 25°C
- ³ LINEARITY IS MEASURED AT 1/2 FULL SCALE PRESSURE USING BEST STRAIGHT LINE FIT
- 4 - THE OUTPUT OF THE SENSOR IS PROPORTIONAL, RATIOMETRIC, TO THE EXCITATION VOLTAGE. THE EXCITATION MAY VARY BETWEEN 3 TO 16 Vdc. ALL SPECIFICATIONS WILL NOMINALLY BE CHANGED BY THE RATIO OF V_{EXCITATION}/12.0 Vdc
- 5 - LIMIT SOLDERING TO 315°C FOR LESS THAN 10 SECONDS
- 6 - PIN 1 IS IDENTIFIED BY THE DOT ON THE HOUSING AS SHOWN ON THE VARIOUS DRAWINGS
- 7 - APPLY PRESSURE TO PORT INDICATED ON THE DRAWINGS SHOWN
- 8 - SENSORS ARE OPERATIONAL OVER VACUUM PRESSURE RANGE
- 9 - INPUT MEDIA RESTRICTED TO DRY GASES ONLY
- ¹⁰ THE L04 LISTING HAS A TEMPERATURE SHIFT RANGE FROM 0 TO 25°C AND 25 TO 50°C

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:	<input checked="" type="checkbox"/> US (inch) CUSTOMARY	<input type="checkbox"/> SI (mm) METRIC	DRAWN	TRF	02APR01	Honeywell		
NO PLACE	X	±.040 ±1	CHECK	SAV	02APR01			
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				SIZE	DWG TYPE	DRAWING NAME
THREE PLACE	.XXX	±.005 ±				C	I	CPC GAGE SERIES CHART 1 14
ANGLES	±	±				SCALE	3:1	WEIGHT
RAW MATERIAL-COMMERCIAL STANDARD	±	±	3D PTC	ASME Y14.5M-1994	SHEET	1 OF 1		
THIRD ANGLE PROJECTION						REV		
						14		