

## Pressure Sensors

0 - 5 psi Through 0 - 300 psi

*SCC Series*

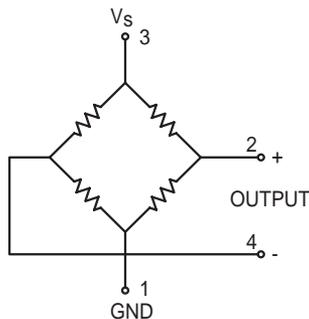
### FEATURES

- Low Cost Sensor Element
- Internal Temperature Compensation
- Differential or Gauge Pressures

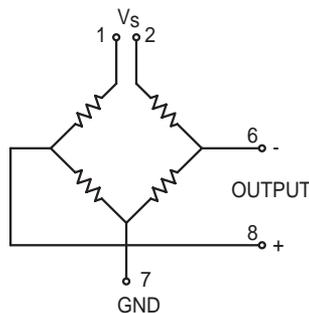
### TYPICAL APPLICATIONS

- Pneumatic Controls
- Automotive Diagnostics
- Medical Equipment
- Dental Equipment
- Environmental Controls

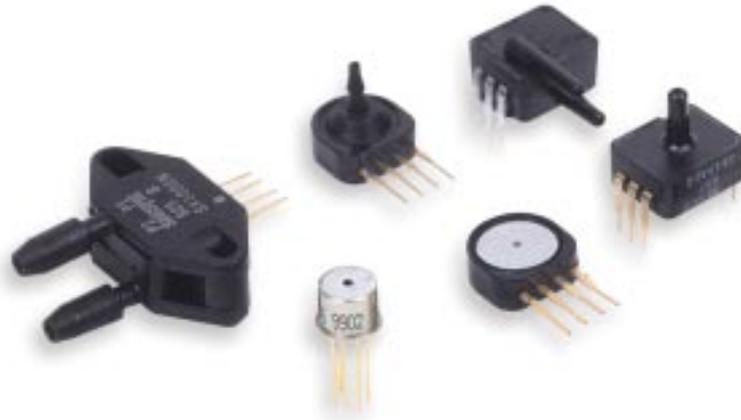
### EQUIVALENT CIRCUITS



BUTTON, NIPPLE AND "N" PACKAGE



TO AND DIP PACKAGE



The SCC Series offers an extremely low cost sensor element with a temperature stable output when driven with a constant current source. These integrated circuit sensors were designed for extremely cost sensitive applications where precise accuracy over a wide temperature range is not required. This series is intended for use with non-corrosive, non-ionic working fluids such as air, dry gases and the like.

Absolute devices have an internal vacuum reference and an output voltage proportional to applied pressure. The differential devices allow application of pressure to either side of the diaphragm and devices are thereby available to measure both differential and gauge pressures.

This product is packaged either in SenSym's standard low cost chip carrier "Button" package or a metal TO5 Package. Both packages are designed for applications where the sensing element is to be integral to the OEM equipment. These packages can be o-ring sealed, epoxied, and/or clamped onto a pressure fitting. A closed bridge four-pin SIP configuration is provided for electrical connection to the button package. The TO5 Package offers a five-pin open bridge configuration.

Contact your local SenSym ICT representative, the factory, or go to Sensym ICT's Web site at [www.sensym-ict.com](http://www.sensym-ict.com) for additional details.

### **⚠ 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.

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

### **⚠ WARNING**

#### **MISUSE OF DOCUMENTATION**

- 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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## PRESSURE SENSOR CHARACTERISTICS

### Maximum Ratings (For All Devices)

Supply Current, $I_S$	1.5mA
Temperature Ranges	
Compensated	0°C to 50°C
Operating	-40°C to 85°C
Storage	-55°C to 125°C
Humidity	0 to 100% RH
Lead Temperature (Soldering 2-4 Seconds)	250°C
Common-Mode Pressure	150 psi

## PERFORMANCE CHARACTERISTICS

(Individual Models)  $I_S$ -1.0 mA,  $T_A$ -25°C<sup>(1)</sup>

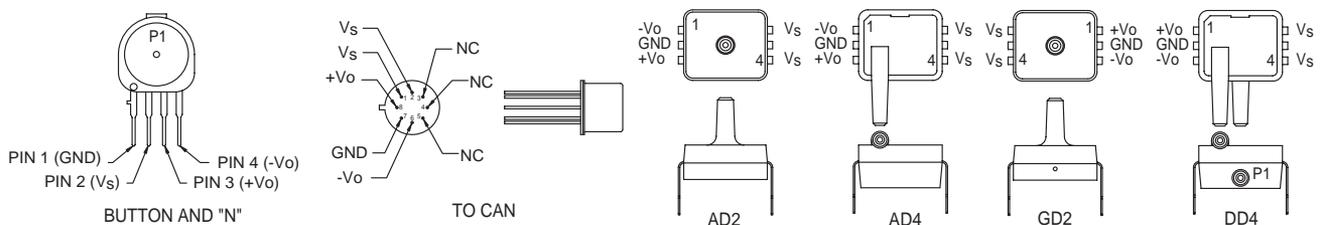
Part#	Operating Pressure Range	Maximum Over Pressure	Accuracy <sup>(2)</sup>	Effect <sup>(3,8)</sup> On Span (0°C to 50°C)	Effect <sup>(4,8)</sup> On Offset (0°C to 50°C)	Full-Scale Span <sup>(5)</sup> (mV)
SCC05(D,G)	0-5 psid (g)	20 psi	0.50%	1.50%	30µV/°C	25-65
SCC15A	0-15 psia	30 psia	0.50%	1.50%	40µV/°C	40-95
SCC15(D,G)	0-15 psid (g)	30 psi	0.50%	1.50%	40µV/°C	40-95
SCC30(D,G)	0-30 psid (g)	60 psi	0.50%	1.50%	60µV/°C	60-150
SCC100A	0-100 psia	150 psia	0.50%	1.50%	30µV/°C	85-225
SCC100(D,G) <sup>(9)</sup>	0-100 psig	150 psig	0.50%	1.50%	90µV/°C	85-225
SCC300A	0-300 psia	450 psia	0.50%	1.50%	50µV/°C	50-120

## PERFORMANCE CHARACTERISTICS

(All Models)  $I_S$ -1.0 mA,  $T_A$ -25°C

Characteristics	Min	Typ	Max	Unit
Zero Pressure Offset <sup>(10)</sup>	-30.0	-10.0	20.0	mV
Combined, Pressure Non-Linearity, Pressure Hysteresis, Repeatability <sup>(2)</sup>	-	0.25	0.50	%FSO
Long-Term Stability of Offset and Span <sup>(6)</sup>	-	0.10	-	mV
Response Time (10% to 90%) <sup>(7)</sup>	-	0.10	-	mSec
Input Impedance	4.00	5.00	6.50	kΩ
Output Impedance	4.00	5.00	6.50	kΩ

## ELECTRICAL CONNECTIONS



# Pressure Sensors

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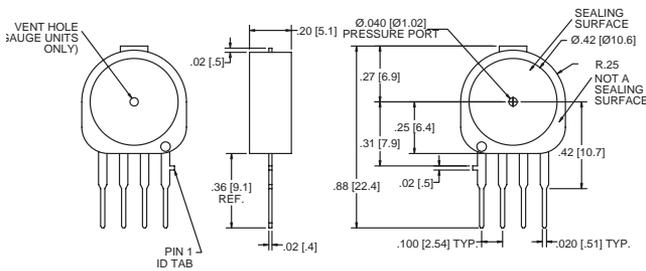
SCC Series

### SPECIFICATION NOTES

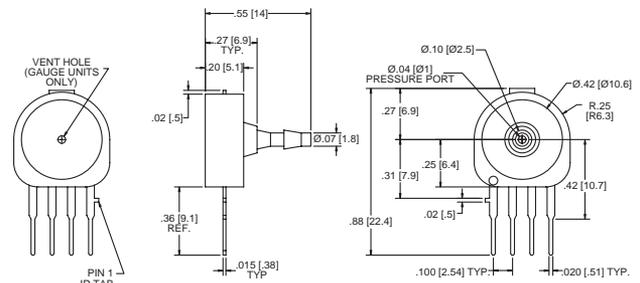
- Note 1: Reference Conditions:  $T_A = 25^\circ\text{C}$ , Supply Current = 1.0mA, Common Mode Line Pressure = 0 psig, Pressure Supplied to P1 unless otherwise noted.
- Note 2: Accuracy is the sum of Pressure Hysteresis and Pressure Non-Linearity. Pressure Hysteresis is the maximum output difference at any point within the operating pressure range for increasing and decreasing pressure. Pressure Non-Linearity refers to the best straight line fit as measured for the offset, full-scale and 1/2 full-scale pressure at  $25^\circ\text{C}$ .
- Note 3: This is the maximum temperature shift for span when measured between  $0^\circ\text{C}$  and  $50^\circ\text{C}$  relative to the  $25^\circ\text{C}$  reading. Typical temperature coefficients for span and resistance are  $-2200 \text{ ppm}/^\circ\text{C}$  and  $2200 \text{ ppm}/^\circ\text{C}$  respectively.
- Note 4: This is the maximum temperature shift for offset when measured at  $0^\circ\text{C}$  and  $50^\circ\text{C}$  divided by the temperature difference.
- Note 5: Full-Scale Span is the algebraic difference between and the output voltage at full-scale pressure and the output at zero pressure.
- Note 6: Maximum difference in output at any pressure with the operating pressure range and temperature within  $0^\circ\text{C}$  to  $50^\circ\text{C}$  after:
- 100 temperature cycles,  $0^\circ\text{C}$  to  $50^\circ\text{C}$ .
  - 1.0 million pressure cycles, 0 psi to Full-Scale Span.
- Note 7: Response time for a 0 psi to Full-Scale Span pressure step change. 10% to 90% rise time.
- Note 8: Temp. effect on span and offset are guaranteed by design. Therefore these parameters are not 100% tested.
- Note 9: The SCC100D devices can only be used in a forward gauge mode. Application of more than 30 psig to the back side of any of the SCC Series devices can result in device failure. On the SCC100GD2 pressure can only be applied to the back side of the die. No pressure is accessible from the front/top side of the die.
- Note 10: The zero pressure offset is  $+30$  to  $-20\text{mV}$  max for parts SCCxxxGD2 and SCCxxxDD4 devices.

### PACKAGE OUTLINES

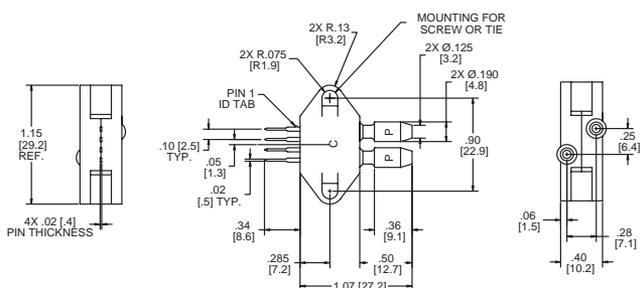
#### Button Package



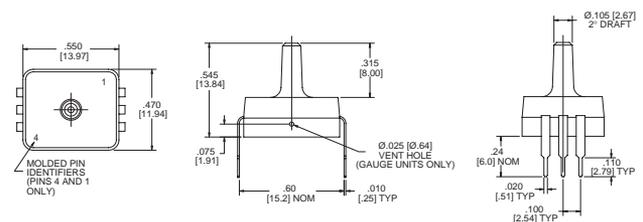
#### Nipple Package



#### N Housing Package



#### D2 Dip Package

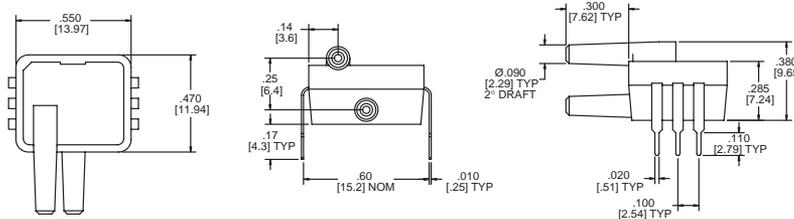


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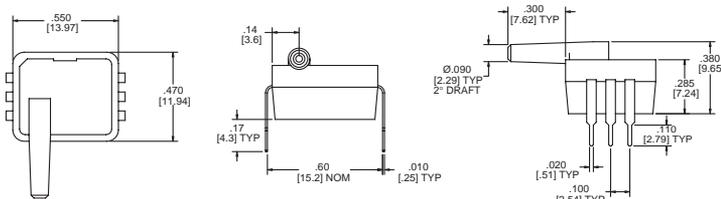
## 0 to 5 psi through 0 to 300 psi

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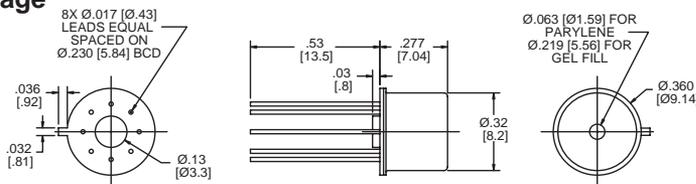
### DD4 Dip Package



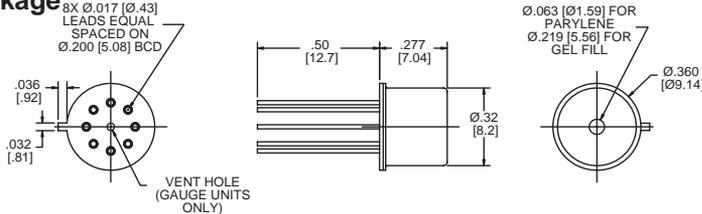
### AD4 Dip Package



### TO5 Package



### TO39 Package



## ORDERING INFORMATION

To order, use the following part number(s)

Pressure Range	Order Part Number				
	Sensor in Button Package	Sensor in "N" Package	Sensor in TO5 Package (Open Bridge)	Sensor in Ported Package	Sensor In DIP Package
0 to 5 psid or psig	SCC05D	SCC05DN	SCC05GSO	SCC05DP1	SCC05GD2, SCC05DD4
0 to 15 psid or psig	SCC15D	SCC15DN	SCC15GSO	SCC15DP1	SCC15GD2, SCC15DD4
0 to 30 psid or psig	SCC30D	SCC30DN	SCC30GSO	SCC30DP1	SCC30GD2, SCC30DD4
0 to 100 psig	SCC100D	SCC100DN	SCC100GSO	-	SCC100GD2, SCC100DD4
0 to 15 psia	SCC15A	SCC15AN	SCC15AHO	SCC15AP1	SCC15AD2
0 to 30 psia	SCC30	SCC30AN	SCC30AHO	SCC30AP1	SCC30AD2
0 to 100 psia	SCC100A	SCC100AN	SCC100AHO	-	SCC100AD2
0 to 300 psia	-	-	SCC300AHO	-	-

### WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. **The foregoing is Buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

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While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application. For application assistance, current specifications, or name of the nearest Authorized Distributor, contact a nearby sales office.

Or call:

1-800-537-6945 USA

1-800-737-3360 Canada

1-815-235-6847 International

### FAX

1-815-235-6545 USA

### INTERNET

[www.honeywell.com/sensing](http://www.honeywell.com/sensing)

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**Honeywell**

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