

**OEM Pressure Sensor
Gage and Absolute
PC Board Mountable
Serialized**

Features

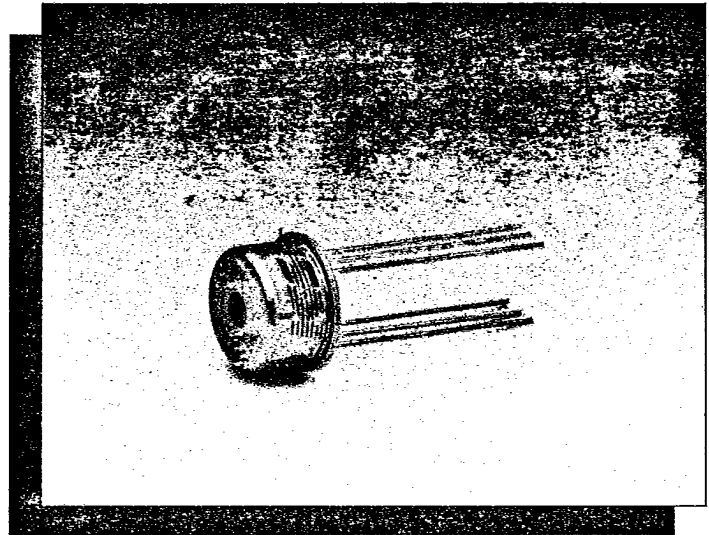
- Solid State Reliability
- 100 mV Output Span
- Ratiometric
- Infinite Resolution
- Low Noise
- ±0.1% Accuracy
- Low Power
- Humidity Resistant
- Low Cost
- Performance Graded

Typical Applications

- Medical
- Computer Peripherals
- Robotics
- Vacuum Measurement
- Avionics
- Automotive
- Industrial Controls
- Barometric Sensing
- Leak Detection
- Environmental Control

Standard Ranges

0 to 5 psig	0 to 5 psia
0 to 10 psig	0 to 10 psia
0 to 15 psig	0 to 15 psia
0 to 30 psig	0 to 30 psia
0 to 50 psig	0 to 50 psia
0 to 100 psig	0 to 100 psia
0 to 250 psig	0 to 250 psia



Description

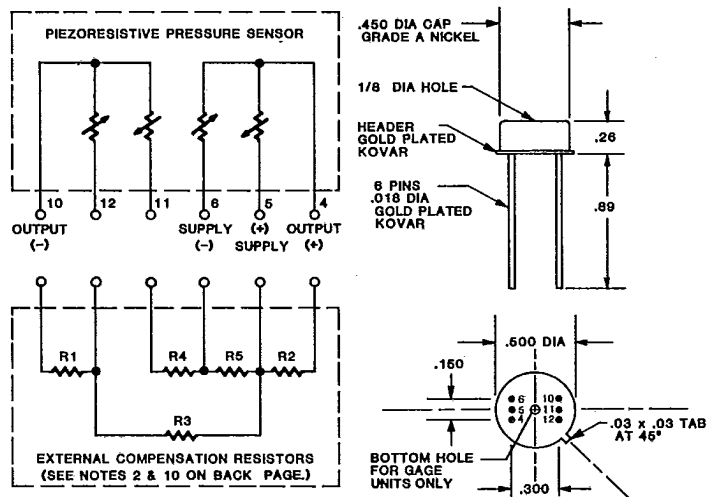
The Model 40 is a compact, solid state, piezoresistive pressure sensor that is packaged in a TO-8 configuration and is intended for use with non-corrosive gaseous media where minimal package size and excellent long-term stability are both required. Each sensor is individually serialized. If a top pressure port is preferred see the Model 10 series.

Temperature compensation and calibration over 0-50°C is accomplished with the addition of only 3 external resistors, the values of which are included with each sensor.

Three performance grades are available in both gage and absolute pressure from 0-5 psi to 0-250 psi.

For limited temperature range and auto-zero applications where external resistor compensation data is not required, a fourth grade, the Model 41, is also available and is similar to the Model 40C at 25°C.

Connections/Dimensions



* ALL DIMENSIONS ARE IN INCHES

Model 40

4677375 I C SENSORS INC

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Performance Specifications

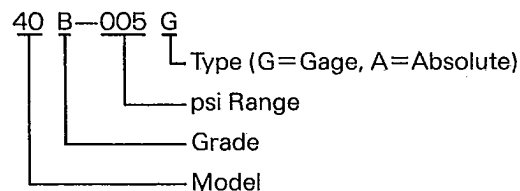
Supply Current = 1.5 mA & Ambient Temperature = 25°C (Unless otherwise specified)

T-65-13

PARAMETER	GRADE									UNITS	NOTES
	A			B			C				
	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX		
Full-Scale Output Span	75	100	150	75	100	150	50			mV	2
Zero Pressure Output			5			5			5	±mV	2, 10
Linearity		0.05	0.10			0.25			0.50	±% Span	3
Pressure Hysteresis		0.01	0.05			0.10			0.15	±% Span	
Input & Output Resistance	4000	6000	6000		5000	6000		5000		Ω	
Temperature Coefficient-Span		0.3	0.5			1.0			2.0	±% Span	1, 2, 10
Temperature Coefficient-Zero		0.1	0.5			1.0			2.0	±% Span	1, 2
Temperature Coefficient-Resistance		.22			.22			.22		%/°C	1, 2
Thermal Hysteresis-Span		0.1			0.2			0.3		±% Span	1
Thermal Hysteresis-Zero		0.1			0.2			0.3		±% Span	1
Supply Current		1.5	2.0		1.5	2.0		1.5	2.0	mA	4
Response Time (10% to 90%)		1.0			1.0			1.0		mS	5
Output Noise		1.0			2.0			5.0		μV p-p	6
Output Load Resistance	2			2			2			MΩ	7
Insulation Resistance (50VDC)	50			50			50			MΩ	
Long Term Stability		0.2			0.5			1.0		±% Span/year	
Pressure Overload			3X			3X			3X	Rated	8
Operating Temperature	-40°C to +125°C										
Storage Temperature	-55°C to +160°C										
Acceleration	50g Max										
Shock	1000g Peak for 0.5 mS										
Vibration	20g Peak at 10 to 2000 Hz										
Media	Non-corrosive Gases										9
Weight	3 grams										

Notes

- Temperature range: 0-50°C in reference to 25°C.
- With external resistors (R₁ or R₂), (R₃ or R₄) and R₅ included in circuit on Front Page. If R₁ is required then R₂ is left open (R₂ = ∞) and vice versa. If R₃ is required then R₄ is a short (R₄ = 0) and vice versa.
See Application Note TN-002.
- Best fit straight line.
- Guarantees output/input ratiometricity.
- For a zero-to-full scale pressure step change.
- 10Hz to 1kHz.
- Prevents increase of TC-Span due to output loading.
- 3X or 500 psi maximum, whichever is less.
- Wetted materials are nickel and silicone gel. See Model 20 Series for corrosive and conductive media applications.
- External Compensation Resistors
 - Model 40: A computer printout is supplied with each sensor detailing the values of the 3 required external resistors along with open and short information for the other two locations.
 - Model 41: Basic sensor. Specifications at 25°C are equivalent to Model 40C. No temperature testing is performed. Customer determines necessary external resistor values.
 - Models 42 & 43 (See Data Sheets): Compensation resistors are an integral part of the sensor package. No additional external resistors are required. Also, Model 43 is interchangeable; see Application Note TN-003.

Ordering Information**Represented By**

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