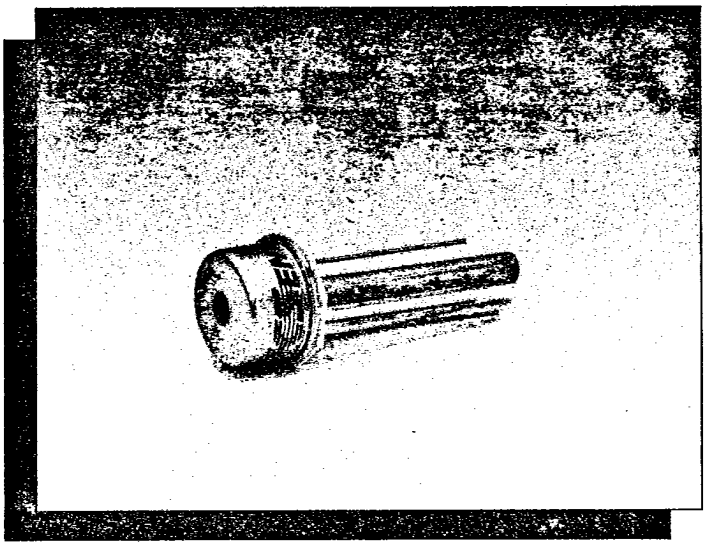
OEM Pressure Sensor Media Compatible Interchangeable Serialized



Features

- Temperature Compensated
- ±1mV Zero Output
- Solid State Reliability
- Infinite Resolution
- ±1% Normalized Output Span
- Ratiometric
- Humidity Resistant
- ±0.1% Accuracy
- Low Noise
- Performance Graded

Typical Applications

- Medical
- Liquid Level
- Process Control
- Water Management
- Oceanography
- Environmental Control
- Refrigeration
- Agricultural Sprayers
- Pollution Control
- Automotive

Standard Ranges

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

Description

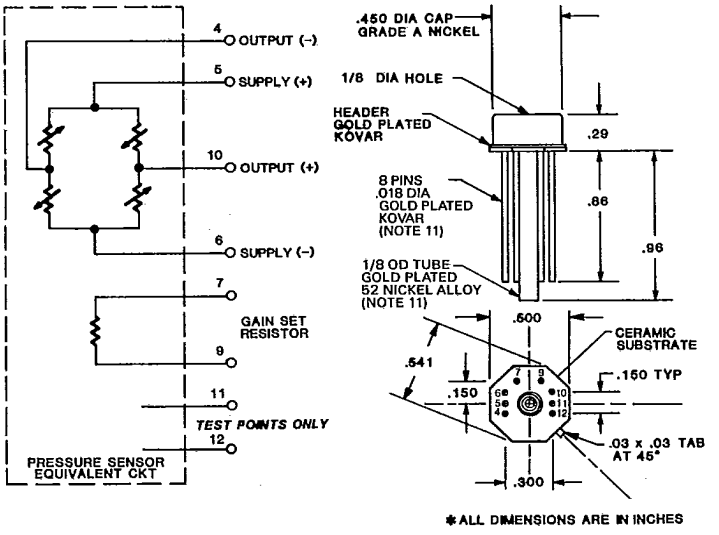
The Model 23 is a media compatible, solid state, piezoresistive pressure sensor that is packaged in a TO-8 configuration and is intended for use with corrosive or conductive fluid or gaseous media where excellent long-term stability is required. Each sensor is individually serialized.

Integral temperature compensation is provided along with calibration over 0-50°C with laser trimmed resistors. No external resistors are required.

An additional laser trimmed resistor is included to normalize pressure sensitivity variations by programming the gain of an external amplifier, thus providing ±1% interchangeability along with high level output.

Three performance grades are available in gage pressure from 0-5 psi to 0-250 psi for the Model 23 and 0-5 psi to 0-15 psi for the Model 23N.

Connections/Dimensions



Model 23

T-65-13

Performance Specifications

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

PARAMETER	GRADE A MIN	A TYP	A MAX	B MIN	B TYP	B MAX	C MIN	C TYP	C MAX	UNITS	NOTES
Full-Scale Output Span		100			100		50			mV	2, 10
Zero Pressure Output			1			2			5	±mV	2
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	2500	4400	6000		4400	6000		4400		Ω	
Temperature Coefficient-Span		0.3	0.5			1.0			2.0	±% Span	1, 2
Temperature Coefficient-Zero		0.1	0.5			1.0			2.0	±% Span	1, 2
Temperature Coefficient-Resistance		.22			.22			.22		%/°C	1
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 +150°C										
Acceleration	50g Max										
Shock	1000g Peak for 0.5 mS										
Vibration	20g Peak at 10 to 2000 Hz										
Media	Corrosive and Conductive Liquids and Gases compatible with wetted materials										9
Weight	3 grams										

Notes

1. Temperature range: 0-50°C in reference to 25°C.
2. Compensation resistors are an integral part of the sensor package; no additional external resistors are required. Pins 11 and 12 must be kept open. Model 23 is interchangeable only when used with a gain stage as shown in Figure 1; see Application Note TN-003.
3. Best fit straight line.
4. Guarantees output/input ratiometricity.
5. For a zero-to-full scale pressure step change.
6. 10Hz to 1kHz.
7. Prevents increase of TC-Span due to output loading.
8. 3X or 500 psi maximum, whichever is less.
9. Wetted materials are gold, RTV (23N only), silicon and glass. The Model 23N is available in 5, 10 and 15 psi ranges only.
10. Output span of unamplified sensor.
11. Soldering of lead pins and bottom tube: 250°C for 5 seconds maximum. Heat-sink tube while soldering.

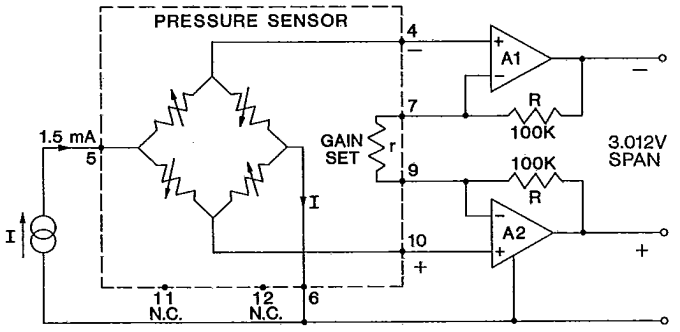


FIGURE 1.

Ordering Information

23 N B—005 G

- G — Type (G=Gage)
- 005 — psi Range
- B — Grade
- N — See Note 9
- 23 — Model

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