

# Model 23 Medium Pressure



**PC Board Mountable Pressure Sensor**  
**0-100 mV Output**  
**Gage Pressure**  
**Temperature Compensated**

- ▶ Medical Instrumentation
- ▶ HVAC
- ▶ Process Control
- ▶ Vacuum Measurement
- ▶ Air Flow Management



## DESCRIPTION

The Model 23 is a temperature compensated, piezoresistive silicon pressure sensor packaged in TO-8 configurations. It provides excellent performance and long-term stability.

Gage pressure ranges from 0-2 PSI to 0-250 PSI are available. Integral temperature compensation is provided over a range of 0-50°C using laser-trimmed resistors. An additional laser-trimmed resistor is included to normalize pressure sensitivity variations by programming the gain of an external differential amplifier. This provides sensitivity interchangeability of  $\pm 1\%$ .

Please refer to the low pressure section for information on products with operating pressures less than 0-2 PSI. An uncompensated sensor (Model 20) is also available. For sensors in a dual-in-line package please refer to the Models 1210 and 1220. Please contact the factory for additional information.

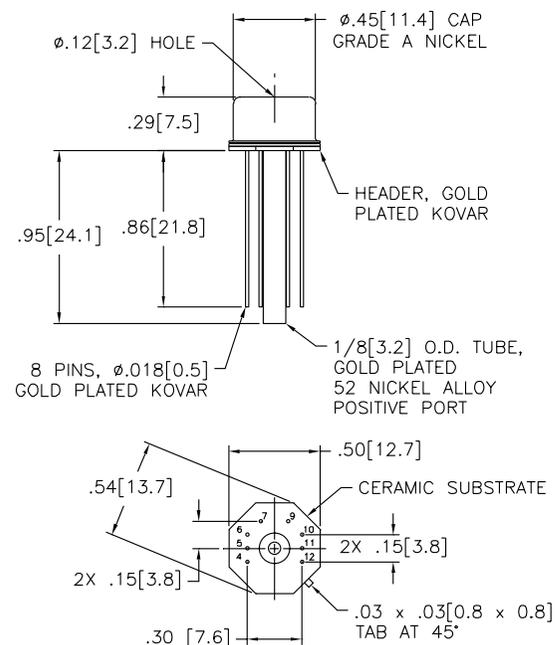
## FEATURES

- ▶ TO-8 Package
- ▶  $\pm 0.1\%$  Non-linearity
- ▶  $\pm 0.5\%$  Temperature Performance
- ▶ 1.0% Interchangeable Span (provided by gain set resistor)
- ▶ Solid State Reliability
- ▶ Low Power

## STANDARD RANGES

Range	psig
0 to 2	●
0 to 5	●
0 to 10	●
0 to 15	●
0 to 30	●
0 to 50	●
0 to 100	●
0 to 250	●

## DIMENSIONS



DIMENSIONS ARE IN INCHES [mm]

**PERFORMANCE SPECIFICATIONS**

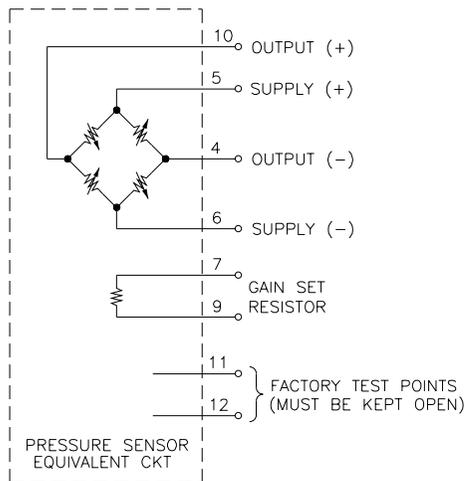
Supply Current: 1.5mA  
 Ambient Temperature: 25°C (Unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Full Scale Output Span	75	100	150	mV	
Full Scale Output Span (2 psi version)	30		60	mV	
Zero Pressure Output			2	±mV	
Pressure Non-linearity		0.05	0.10	±% Span	1
Pressure Hysteresis		0.01	0.05	±% Span	
Input & Output Resistance	2500	4400	6000	Ω	
Temperature Error – Span		0.3	0.5	±% Span	2
Temperature Error – Zero		0.1	0.5	±% Span	1, 2
Thermal Hysteresis – Span		0.1		±% Span	2
Thermal Hysteresis – Zero		0.1		±% Span	2
Supply Current		1.5	2.0	mA	3
Response Time		1.0		msec	4
Output Noise		1.0		µV p-p	5
Output Load Resistance	2			MΩ	6
Insulation Resistance (50 VDC)	50			MΩ	7
Pressure Overload			3X	Rated	8, 10
Operating Temperature	-40°C to +125°C				
Storage Temperature	-50°C to +150°C				
Acceleration	50g Max				
Shock	1000g Peak for 0.5mS				
Vibration	20g Peak at 10 to 2000 Hz				
Media	Non-Corrosive Gases				9
Weight	3 Grams				

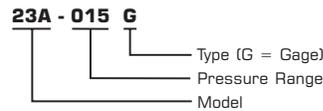
**Notes**

- Best Fit Straight Line. For 2 psi output span is 30-60 mV and TC zero temperature error is ±1.25%.
- Temperature range 0-50°C in reference to 25°C.
- Guarantees input/output ratiometricity.
- For a zero-to-full scale pressure step change.
- 10 Hz to 1 kHz.
- Prevents increase of TC Span due to output loading.
- Between case and sensing element.
- For top side application, 3X not to exceed 500 psi on ranges: 0-10 psi to 0-250 psi; 20 psi for 2 psi and 5 psi versions.
- For Top Entry versions, wetted materials are silicon, aluminum, gold, RTV, glass, and nickel. For Bottom Entry versions, wetted materials are silicon, RTV, gold, and glass.
- For backside application, 3X not to exceed 100 psi on all ranges.

**CONNECTIONS**



**ORDERING INFORMATION**



**APPLICATION SCHEMATIC**

