

OEM Pressure Sensor Absolute Pressure Piezoresistive Low Cost Surface Mount Package

Features

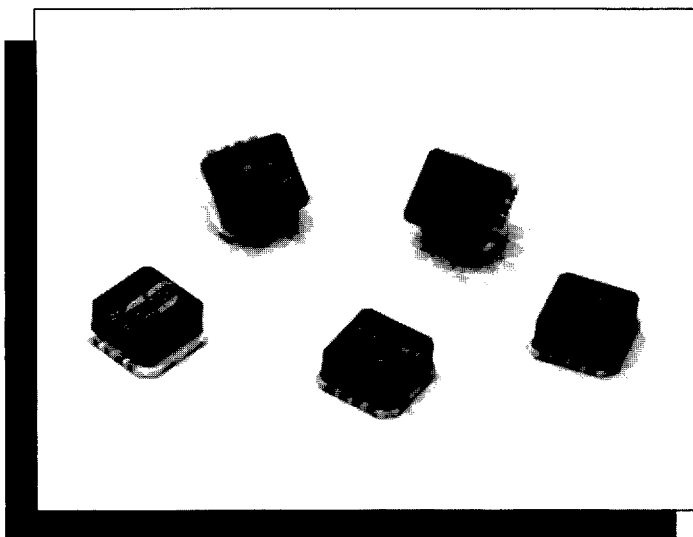
- 60 mV Output Span
- Miniature Size
- Light Weight
- Solid State Reliability
- $\pm 0.25\%$ Accuracy
- Low Noise
- Low Power
- Automated Assembly

Typical Applications

- Medical Instruments
- Altitude Measurement
- Consumer Appliances
- Automotive
- Tire Pressure
- Hand Held Gauges
- Barometric Pressure

Standard Ranges

- 0 to 15 psia
- 0 to 30 psia
- 0 to 50 psia
- 0 to 100 psia
- 0 to 200 psia
- 0 to 300 psia



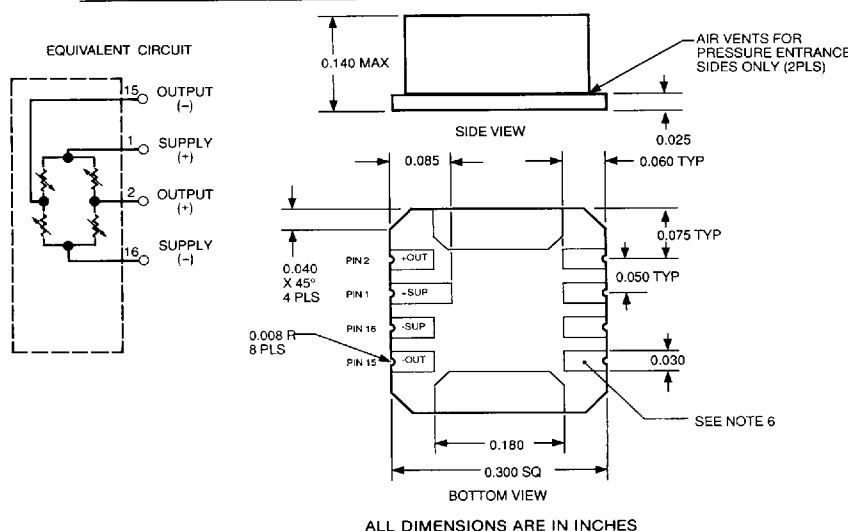
Description

The Model 1431 is a solid-state, piezoresistive pressure sensor packaged in a surface mount configuration. It is intended for high volume applications where small size, light weight, low cost, and compatibility with automated assembly equipment are required.

The pressure sensor consists of an absolute pressure sensing chip that is attached to a surface mountable ceramic substrate. The chip contains an integral vacuum reference. A plastic cap is attached to the ceramic substrate, protecting the chip and allowing pressure to reach the chip via air vents at the base of the plastic cap.

The devices are shipped in plastic anti-static shipping tubes for use with automated production equipment. Standard absolute pressure ranges are available from 0-15 psia to 0-300 psia. Performance characteristics and packaging can be easily tailored on a special order basis to meet the requirements of specific applications.

Connections/Dimensions



Performance Specifications

Supply Voltage = 3Vdc & Ambient Temperature = 25°C (Unless otherwise specified)

PARAMETER	MIN	TYP	MAX	UNITS	NOTES
Full-Scale Output Span	30	60	120	mV	
Zero Pressure Output	-30		40	mV	1
Linearity			0.25	±% Span	2
Pressure Hysteresis			0.1	±% Span	
Input & Output Resistance	3500		6000	Ω	
Temperature Coefficient-Span		-0.20		%/°C	
Temperature Coefficient-Zero		+0.05		%/°C	
Temperature Coefficient-Resistance		+0.23		%/°C	
Thermal Hysteresis-Zero		0.2		±% Span	
Supply Voltage		3	12	Volts DC	
Response Time (10% to 90%)		1.0		mS	3
Output Noise		1.0		μV p-p	4
Insulation Resistance (50VDC)	50			MΩ	
Long Term Stability		0.5		±% Span/YR	
Pressure Overload			3X	Rated	
Operating Temperature	-40°C to +125°C				
Storage Temperature	-55°C to +150°C				
Media	Non-Corrosive Gases				
Weight	0.3 grams				

Notes

1. Zero pressure output is measured at one atmosphere (14.7 psia) and the output is extrapolated to 0 psia.
2. Best Fit Straight Line.
3. For a zero-to-full scale pressure step change.
4. 10Hz to 1kHz.
5. Solder on pads is 63% Tin and 37% Lead.
Maximum temperature during mounting is 220°C for 1 minute.

Ordering Information

Represented By

1431- 015 -A

Type (A=Absolute)
psi Range
Model

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