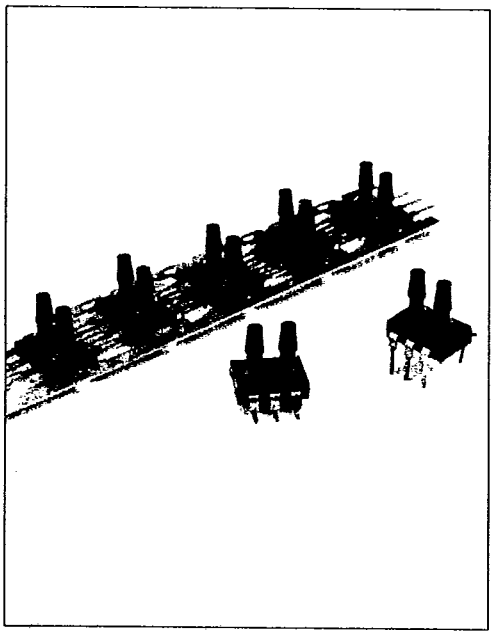
Nova PS Series

SMALL PLASTIC PACKAGE SOLID STATE SENSOR ABSOLUTE OR DIFFERENTIAL PRESSURE

FEATURES

- ❒ Solid state, high reliability
- ❒ Standard Dual In-line Package (DIP) configuration. Surface mount also available
- ❒ Perfectly suited for PC boards or DIP sockets
- ❒ Differential pressure ports located on same side of pkg.
- ❒ Very low cost, small size
- ❒ Barbed pressure ports take 1/16" ID tubing-No additional fittings are necessary
- ❒ Media compatible with non-corrosive gases and moist air
- ❒ Standard pressure ranges are:
  30 kPa (5 psi)
  100kPa (15 psi)
  200kPa (30 psi)
  700kPa (100 psi)
- ❒ Output signal of 100 mv @ 1.5 mA
- ❒ Custom configurations available, including surface mount. Also 0-7 kPa (1 psi) model – please consult factory.



Actual Size

APPLICATIONS

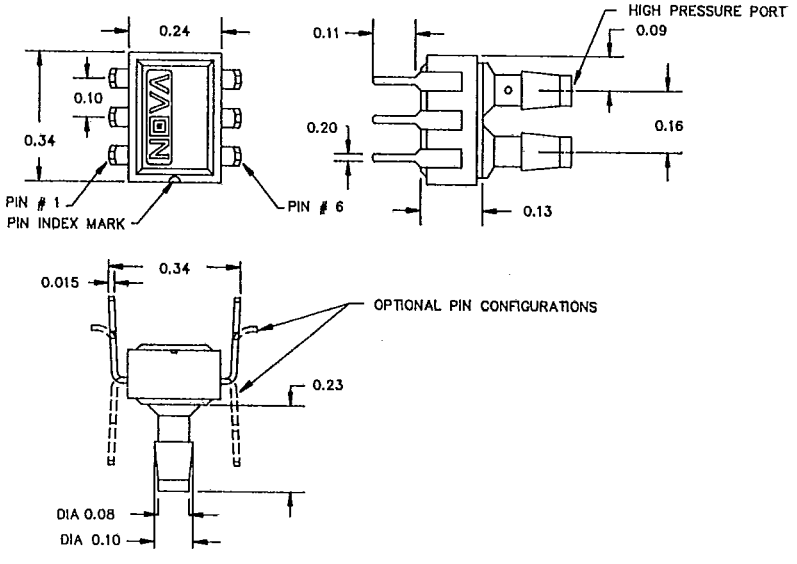
- Process control, P-to-I converters
- Pneumatic control systems
- HVAC controls
- Biomedical equipment
- Home appliances and recreational equipment
- Aerospace: avionics, altitude, and cabin pressure sensors
- Computer peripherals

DESCRIPTION

The Nova PS Series is designed in the form of a Mini-DIP plastic package, which takes advantage of existing high-volume leadframe IC packaging technology. It is the smallest differential pressure sensor available, with two 1/16" pressure ports. The sturdy package withstands over 300% overpressure.

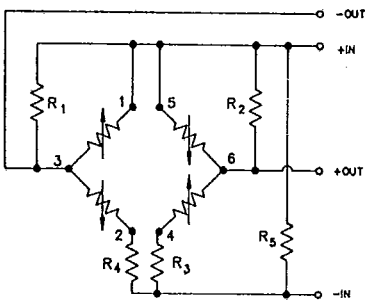
These miniaturized sensors give the OEM user the maximum in mounting flexibility: besides standard pins down mounting to the DIP socket, they can be formed in the reverse direction or formed for surface mount as options. They can be used with non-corrosive pressure media, and are available in absolute as well as gage and differential configurations.

The PS small outline devices have a state-of-the-art IC piezoresistive silicon sensor which produces a linear voltage output proportional to input pressure. Resistor values are supplied with each sensor which compensate its performance over the operating temperature range and set the endpoints.



PACKAGE OUTLINE DIMENSIONS

SCHEMATIC DIAGRAM



NOTE: VALUES FOR EXTERNAL TEMPERATURE COMPENSATING RESISTORS ARE PROVIDED WITH EACH SENSOR.

NOVA PS SERIES

T-65-13

SPECIFICATIONS

GENERAL

Parameter	Abbr.	Value	Units	Notes
Pressure Range*	P	0- 30	kPa	0- 5 psi
	P	0-100	kPa	0- 15 psi
	P	0-200	kPa	0- 30 psi
	P	0-700	kPa	0-100 psi
Maximum Pressure	Pmax	3 times rated pressure		
Media Compatibility:	Noncorrosive gas and moist air			

ELECTRICAL (@ 25°C (77° F) unless otherwise stated)

Parameter	Abbr.	Value	Units	Notes
Input Excitation	I	1.5	mA	2mA max.
Insulation Resistance	R_{iso}	100	MΩ	@ 50 Vdc
Bridge Resistance	R_b	5000	Ω	±10% typical

ENVIRONMENTAL

Parameter	Abbr.	Value	Units	Notes
Temperature Range				
Operating	T_o	-40 to +125	°C	-40° to +257°F
Compensated	T_c	0 to +70	°C	+32° to +158°F
Vibration		10	G_{rms}	20 to 2000 Hz
Shock		100	G	11 milliseconds
Life		100 x 10^6 min cycles		

MECHANICAL

Parameter	Abbr.	Value	Units	Notes
Weight	W	<5	gr	<0.2 oz.
Case Material				Plastic

Other pressure ranges including 0-1 psi available upon request; please consult factory.

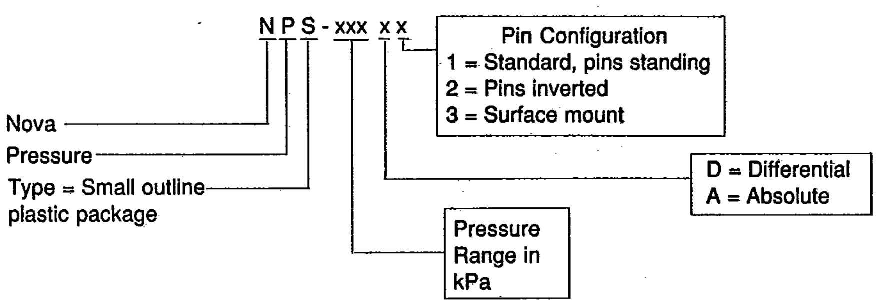
PERFORMANCE **

Parameter	Value	Units	Notes
Offset	±2	mV	
Thermal Accuracy Offset	±1.0	%FSO	0 to +70°C (with reference to 25°C)
Thermal Accuracy - Fullscale Output	±1.0	%FSO	0 to +70°C (with reference to 25°C)
Full Scale Output	100±40	mV	@ 1.5 mA
Nonlinearity	±0.2	%FSO	best fit straight line
Hysteresis	±0.05	%FSO	
Repeatibility	±0.05	%FSO	
Thermal Hysteresis	±0.2	%FSO	0 to +70°C (typical)
Long Term Stability - Sensitivity	±0.2	%FSO	1 year (typical)
Long Term Stability - Offset	±0.2	%FSO	1 year (typical)

Notes: Performance specifications stated with temperature compensation resistors.
All values are maximum unless otherwise stated.
All values measured in reference to 25°C (77° F) and at 1.5 mA constant current unless otherwise stated.

***Higher performance available upon request.**

ORDERING INFORMATION:



REPRESENTED BY:

Standard unit has two 1/16" diameter pressure ports and pins standing as shown in drawing. Differential unit may be used for gage pressure measurement by leaving one port open to ambient air. Absolute model uses high pressure port; this requires the applied pressure to be greater than ambient pressure.

Ordering Example: Assume a requirement for gage or differential pressure measurement with a 0-30 kiloPascal range, differential unit. Model number would be: NPS-030D1

Sales Terms: Net 30 days FOB Fremont, CA 94539. Prices and specifications are subject to change without notice.

Warranty: NovaSensor warrants its products against defects in material and workmanship for 12 months from date of shipment. Products not subjected to misuse will be repaired or replaced. THE FOREGOING IS IN LIEU OF ANY OTHER EXPRESSED OR IMPLIED WARRANTIES. NovaSensor reserves the right to make changes to any product herein and assumes no liability arising out of the application or use of any product or circuit described or referenced herein.

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