

NPP Series Silicon Pressure Sensors

Plastic Surface Mount Packages
NPP-201

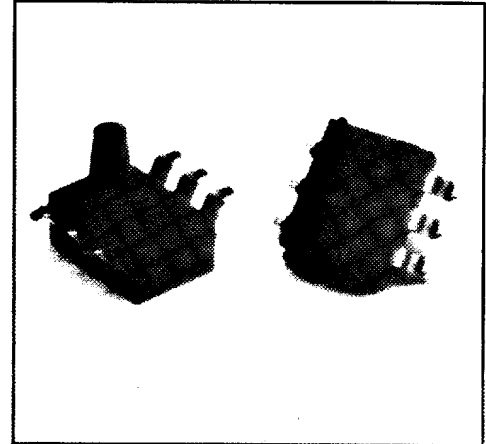
PRELIMINARY

APPLICATIONS

- Automotive: Tire pressure, MAP, fuel and engine control systems, barometric
- Industrial: Portable gages, manometers, altitude measurement, barometry, water depth
- Consumer
- HVAC

FEATURES

- Low cost surface mount package: 6 pin MINI-DIP
- Wide operating temperature range: -40 to $+125^{\circ}\text{C}$
- Static accuracy $< 0.25\%$ FSO maximum
- Suitable for automated component assembly
- Semi-open four element Wheatstone bridge configuration for circuit design flexibility



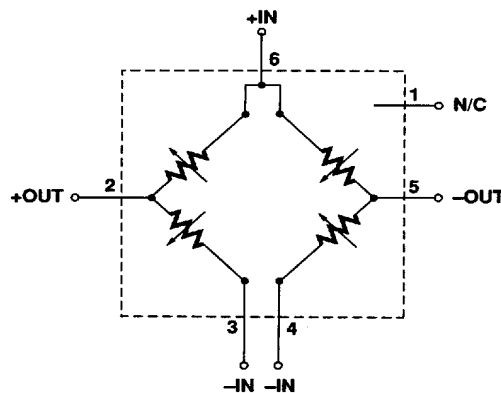
DESCRIPTION

The NPP Series features silicon pressure sensors in miniature plastic surface mount packages. Lucas NovaSensor's smallest Silicon Fusion Bonded (SFB), ultra-high stability SenStable® piezoresistive chip is placed in a plastic package that exploits high volume, leadframe package technology to bring forth a low cost sensor alternative to the OEM user.

Constant current excitation to the NPP-201 produces a voltage output that is linearly proportional to the input pressure. The user can provide NPP Series products with standard signal conditioning circuitry to amplify the output signal or to maximize OEM value added. The NPP Series is compatible with most noncorrosive gases and dry air.

For other lead configurations and alternative pressure ranges, please consult the factory.

SCHEMATIC DIAGRAM



NPP Series**Silicon Pressure Sensors—Plastic Surface Mount Packages**

T-65-13

**OPERATING
CHARACTERISTICS****GENERAL**

Pressure Range	0 to 15	PSIA	1
Maximum Pressure	60	PSIA	

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

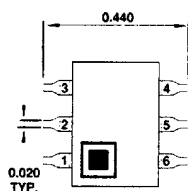
Input Excitation	1.0		
Bridge Impedance	5 ± 20%	kΩ	

ENVIRONMENTAL

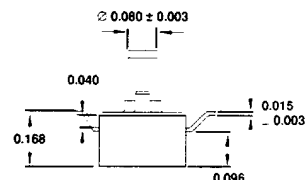
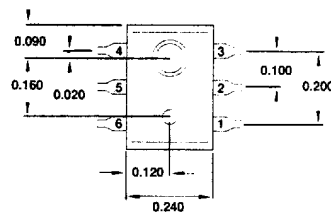
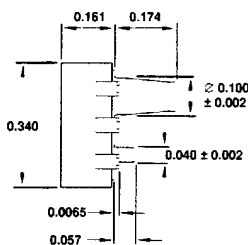
Temperature Range			
Storage ⁽²⁾	-40 to 125	°C	-40 to +257°F
Operating ⁽³⁾	-40 to 125	°C	-40 to +257°F
Media Compatibility	Noncorrosive gases and dry air		

	Units	Value	Notes
Zero Pressure Offset	mV	±50	
Full Scale Output	mV	100 ± 35%	
Linearity	%FSO	±0.2	5
Hysteresis	%FSO	±0.05	
Temperature Coefficients			
TC Resistance	%/100°F	12 to 16	6
TC Sensitivity	%FSO/100°F	-12 to -9	6
TC Zero	μV/V/°C	±10	6

- Notes:**
- For other available ranges, please contact the factory.
 - Solder temperature should not exceed 260°C for 20 seconds.
 - Performance does not include temperature compensation: temperature compensation may be required for certain applications involving wide temperature extremes.
 - All parameters referenced at 25°C with 1.0mA excitation, unless otherwise noted.
 - Best fit straight line linearity.
 - Typical die specifications measured from 0 to 70°C with reference to 25°C.

**PACKAGE
DIAGRAMS**

All dimensions in inches

**Packaging Material:** Polyphenylene sulfide.

Package designed for ambient, absolute pressure measurement only where entire package is subjected to the media; a pressure port connection is not required.

Surface Mounting Tip: To prevent the package from rotating after insertion, a 0.040 inch plastic anti-rotation nipple is provided in line with the main pressure port. A small hole in the PCB may be designed to accept this nipple upon component insertion.

Please refer to package drawing.

Sales Terms:

Lucas NovaSensor standard sales terms apply. Prices and specifications are subject to change without notice.

Warranty:

Lucas 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. Lucas 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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