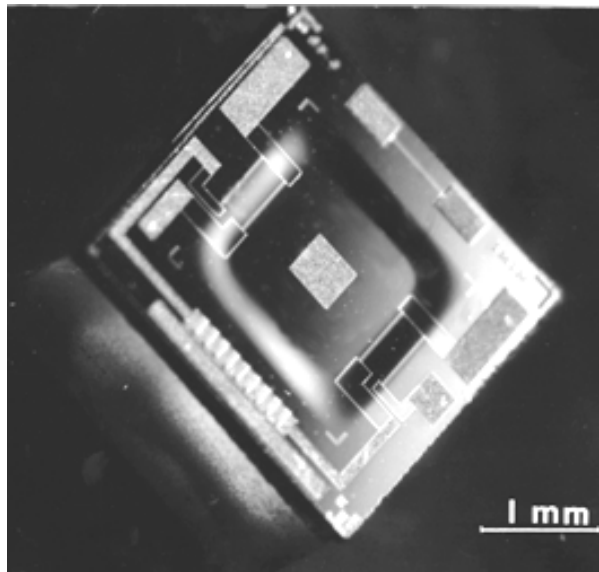


## PRESSURE SENSOR NP SERIES



NP and NPT series sensors are specially designed for low pressure measurements, below 0.5 bar. A pressure sensor is a sensitive element converting mechanical strain into electrical signal. An NP or NPT series sensor is miniature piezoresistive Wheatstone bridge fabricated by planar technology in a profiled silicon diaphragm produced by micromachining. NPT series pressure sensors differ from NP series because they are equipped with an additional temperature sensor, built into the same chip by planar technology.

The built-in temperature sensor enables microprocessor driven correction of sensor errors. This sensor type is especially convenient for the use in industrial pressure transmitters. NP and NPT series pressure sensors are built into different housings, depending on application.

### FEATURES

- Low range, started at 100 mbar FS
- Excellent linearity
- Media compatible with noncorrosive gases and moist air
- High sensitivity
- High reliability
- High pressure overload
- Each sensor is shipped with its specific callibration card. The card lists the resistor values setting the zero offset and full scale output voltages in addition to optimizing the sensor performance for various temperatures.

**ABSOLUTE MAXIMUMS:**

Operating temperature range: (-50 do +120)<sup>o</sup>C

Storage temperature range: (-50 do +150)<sup>o</sup>C

Pressure overload: 50x nominal top, 10x bottom

Supply current: up to 3 mA

**SPECIFICATIONS**

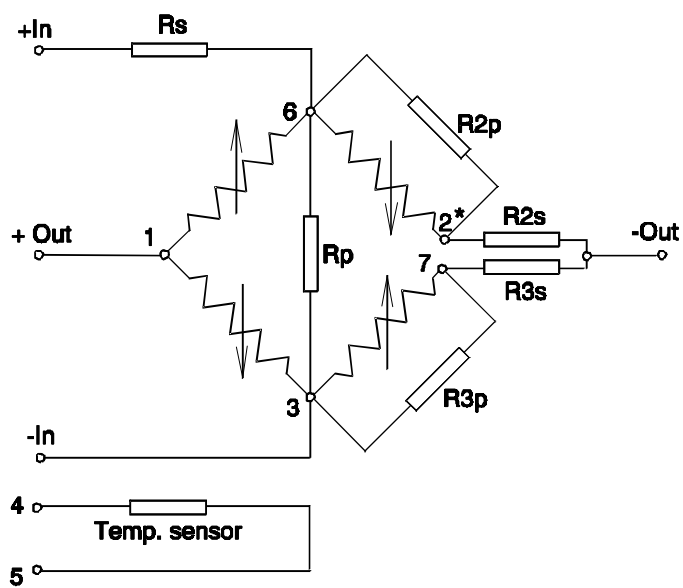
- Ambient temperature 22<sup>o</sup>C, unless otherwise stated
- Operating pressures range: 100/250/500 mbar relative and differential; absolute upon request.

Parameter	typical	min	max	Units	Note
Output voltage	100	80	150	mV	at 2 mA
Offset voltage	±20		±50	% PS	Noncomp. sensor
Nonlinearity	0.05		0.1	% PS	Dev. from best straight line
Bridge resistance	2500	2000	3000	Ω	500 to 5000 Ω on request
Temp. coeff. of offset voltage	±0.02		±0.05	% PS/ <sup>o</sup> C	Compensated
Temp. coeff. of sensitivity	±0.01		±0.05	% / <sup>o</sup> C	Compensated
Hysteresis, repeatability	0.01		0.02	% PS	
Supply current	2		3	mA	
Compensated temper. range		-30	+80	<sup>o</sup> C	Other ranges upon request

**TEMPERATURE SENSOR**

Resistivity at 22 <sup>o</sup> C	2500	2000	3000	Ω	
Temperature coefficient	+0.14	+0.13	+0.15	% / <sup>o</sup> C	

DIMENSIONS AND SCHEMATICAL DRAWING



Recommended circuitry for temperature effect and offset compensation

Temperature sensor is built only into NPT series sensors