

# P592

## Silicon Pressure Sensor Die

### APPLICATIONS

- Consumer: Portable tire pressure gauges; Altimeters and barometry
- Industrial: Pneumatic controls; Leak detection; Manometers and portable pressure gauges; Pressure switches and controllers
- Automotive: Tire Pressure; Diagnostics; Engine and suspension control, MAP sensors
- Medical: Patient monitoring and clinical instrumentations

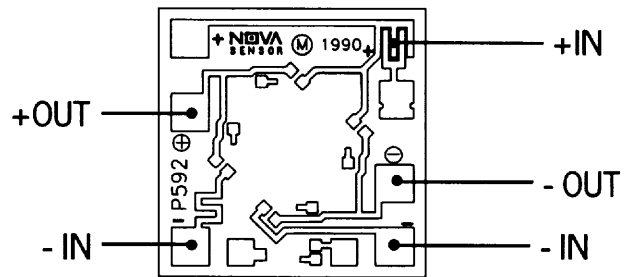
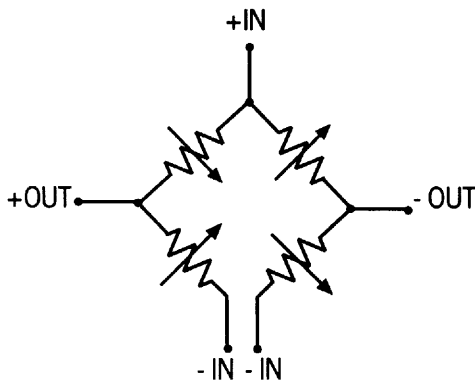
### FEATURES

- Solid State, high reliability
- Low cost, miniature size
- Standard pressure ranges: 0-15, 0-30, 0-50, 0-100 psia
- Nonlinearity < 0.20 %FSO
- SenStable<sup>®</sup> Silicon Fusion Bonded die

### DESCRIPTION

NovaSensor's P592 piezoresistive pressure sensors are offered in a miniature 1 x 1 mm die. When excited with 3 VDC, the P592 produces a millivolt output that is proportional to input pressure. The P592 is available as an absolute pressure sensor where the media pressure is referenced to an internal vacuum sealed in the die. With NovaSensor's SenStable<sup>®</sup> process, the P592 will provide very low long-term stability error and excellent repeatability.

### SCHEMATIC AND WIREBOND DIAGRAM



Die dimensions:  
1 x 1 x 0.6 mm

Bonding Pad Dimensions:  
0.15 x 0.15 mm

### ORDERING INFORMATION

Part Number:	51171	Description:	15 psia
	51172		30 psia
	51173		50 psia
	51174		100 psia

MINIMUM RELEASE QUANTITY: Two wafers, approximately 10,000 dice

# P592 Die Specification

SUNSTAR 传感器控制 (http://www.sensortec.com/ TEL: 0755-83376549 FAX: 0755-83376182 E-MAIL: szss20@163.com

PARAMETER	VALUE	UNITS	NOTES
<b>GENERAL<sup>(1)</sup></b>			
Pressure Ranges	100	kPaA	≈15 psia
	200	kPaA	≈30 psia
	350	kPaA	≈50 psia
	700	kPaA	≈100 psia
Maximum Overpressure	3X		rated pressure
<b>ELECTRICAL @ 22°C (72°F) unless otherwise stated</b>			
Excitation	3.0	VDC	12 VDC MAX
Input Impedance	5000 ± 20%	Ω	
Output Impedance	5000 ± 20%	Ω	
<b>ENVIRONMENTAL</b>			
Temperature Range	Operating	-40 to +125	°C
		-55 to +150	°C
	Storage		-40 to +257°F
			-67 to +302°F
<b>MECHANICAL</b>			
Weight	0.02	grams	
Media Compatibility	Clean, dry air and noncorrosive gases		
<b>Performance Parameters</b>			
	Units	Value <sup>(6)</sup>	Notes
Zero Offset	mV/V	± 8	7
Full Scale Output	mV	60 ± 15	
Linearity	%FSO	± 0.20	2
Hysteresis	%FSO	± 0.1	
Temperature Coefficient of Zero	%FSO/°C	± 0.04	3
Temperature Coefficient of Resistance	%/°C	+ 0.30	3
Temperature Coefficient of Sensitivity	%FSO/°C	-0.20	3
Thermal Hysteresis of Zero	%FSO	± 0.1	4
Long Term Stability of FSO	%FSO	± 0.2	5

- Notes:
1. Other pressure ranges are available on special order. Consult factory.
  2. Best fit straight line.
  3. Between 0° and 70°C. Temperature coefficients are typical values.
  4. Between 0 and 70°C.
  5. Typical value over 1 year.
  6. All values are Minimum/Maximum and are measured at 3 VDC and 22°C unless otherwise noted.
  7. ±10 mV/V for 100 kPa sensor.

## SHIPPING AND HANDLING PROCEDURES

All wafers are shipped in protective plastic containers. The wafers are sawn on sticky tape with plastic rings. All wafers are electrically probed and visually inspected. Samples from each wafer verify offset, full-scale output and linearity. Electrical rejects are inked with red dots. Visual rejects are inked with blue dots. Each wafer will have the following information: Lot number, wafer number, device number and the number of good dice.

## SALES TERMS

NovaSensor standard sales terms apply. 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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NOVASENSOR

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