

GE Sensing

Features

- Very small size
 - Standard pressure range -50 to 300 mmHg
 - AC or DC excitation
 - 4000 mmHg burst limit
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Applications

- IUP
 - Intracranial
 - Disposable catheter
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P161

NovaSensor 3F Medical Silicon Pressure Sensor Die

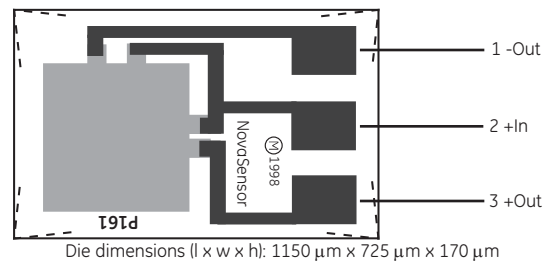
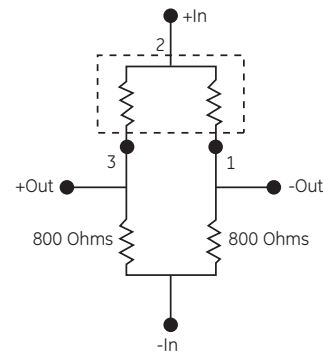
P161 is a NovaSensor product.
NovaSensor has joined other GE
high-technology sensing
businesses under a new name—
GE Industrial, Sensing.



P161 Specifications

Description

GE's NPD-240 piezoresistive pressure sensor die are offered in a miniature 1150 x 725 μm die that is small enough for three French catheters. The small die size is made possible by GE Sensing's proprietary silicon fusion bonding (SFB) process. When excited with an AC or DC voltage source, the NPD-240 produces a mV output that is proportional to input pressure. The NPD-240 is in a half-bridge design, where external resistors are needed to complete a full bridge configuration.



P161 schematic diagrams

Performance Parameters ¹⁾			
	Value ⁴⁾	Units	Notes
Pressure Range	-50 to 300	mmHg	
Operating Temperature	50 to 122	°F	(10°C to 50°C)
Excitation	1 to 8	Volts	AC or DC
Zero Offset	±12.5	mV/V	
Sensitivity	12 to 24	μV/V/mmHg	2
Linearity and Pressure Hysteresis	±2% of reading or ±1 mmHg whichever is larger	%FSO	3, 4
Temperature Coefficient of Zero	±40	μV/V/°C	Typical
Temperature Coefficient of Resistance	0.15	%/°C	Typical
Temperature Coefficient of Sensitivity	-0.2	%FSO/°C	Typical
Bridge Resistance	800 ± 20%	Ω	
Symmetry	5%		5
Burst Pressure	4000	mmHg	
Media Compatibility	Clean, dry, and non-corrosive gases		6

1 Values measured at 0.6 mA and 71.6°F (22 °C) unless noted with 800 Ω resistor between +Out and -IN, and -Out and -IN. Die performance will vary depending on die attach material. The die attach material should be chosen to minimize package stress transmitted to the sensor die.

2 Sensitivity at 100 mmHg.

3 Error at 300 mmHg from straight line through the zero pressure and 100 mmHg readings

4 Topside pressure.

5 Percent of the bridge resistor with the lowest value. Symmetry is the difference between the two bridge resistor values.

6 A protective coating must cover the sensor die for use with saline and other fluids.

Shipping And Handling

Wafers are shipped in protective plastic containers. The wafers are sawn on sticky tape with rings. All sensor wafers are electrically probed, visually inspected. All rejects are marked by an ink dot. Each wafer will be labeled with the lot number wafer number, device number and the number of available sensor die.

Warranty

GE warrants its products against defects in material and workmanship for 12 months from the date of shipment. Products not subjected to misuse will be repaired or replaced. GE reserves the right to make changes without further notice to any products herein. GE makes no warranty, representation or guarantee regarding the suitability of its products for any particular application. GE does not assume any liability arising out of the application or use of any product or circuit and specifically disclaims, and all liability, without limitation consequential or incidental damages. The foregoing warranties are exclusive and in lieu of all other warranties, whether written, oral, implied or statutory. No implied statutory warranty of merchantability or fitness for particular purpose shall apply.

Ordering Information

Part Number
51186

Description
3F, 300 mmHg



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