

# Model 113S

## Plastic Housing OEM Pressure Sensors

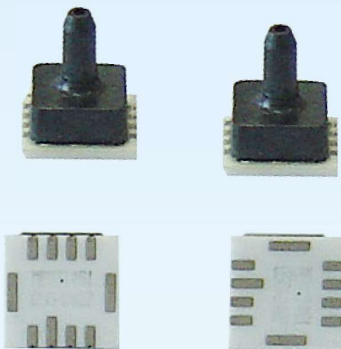


Based on piezoresistive effect, BCM 113S OEM pressure sensors are packaged with plastic housing, with a BCM silicon die (model SE103) mounted on a substrate and accommodate four pads for surface mounting. There are total ten connecting pads for surface mounting, other six pads are used to mounting sensor further reliability. There is a molded pressure port on the top of the cap, which make the sensor simple for pressure connection.

Thanks to mass production, 113S series PEM pressure sensors are coincident and low-cost for OEM user, widely used in medical instruments and monitoring, blood pressure, consumer and sports, process control, environmental monitoring, HVAC etc.

Model 113S OEM pressure sensors are used to measure pressure ranges of 0~5 to 0~150 psi in gauge or absolute pressure with nice accuracy of 0.25%fso, output signal is Wheatstone bridge output voltage (mV), the sensor can be excited by constant current of 0.5~1.5 mA, or constant voltage of 3V.

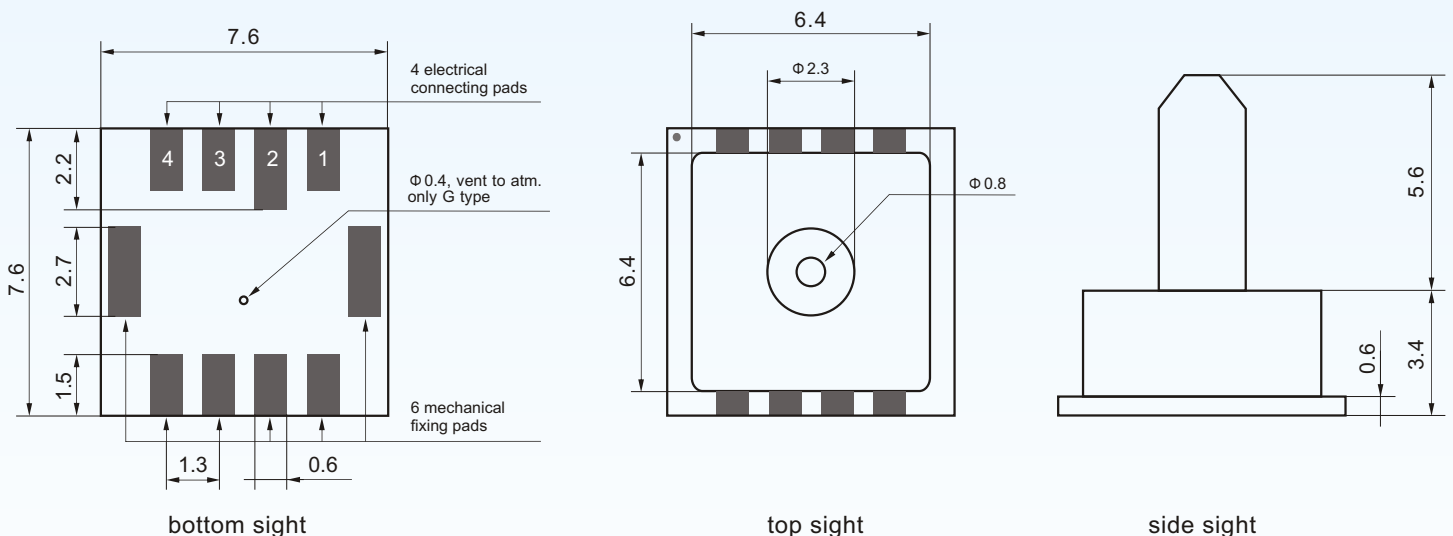
The sensor is temperature non-compensated and can be operated in temperature ranges of -40 ~ +125 °C, because of silicon resistors are very temperature dependent, so the maximum value of temperature coefficient of SPAN is high to 2.0%fso/10°C (fso = full scale output), It's very important to understand it with various specifications and their effects to accuracy.



### Features:

- low pressure ranges of 0~5, ..., 0~150 psi (G, A)
- sensitive output signal about 60mV
- nice accuracy of 0.25%fso
- operating temperature range of
  - 40 ~ +125 °C (for ranges ≤ 0~100 psi);
  - 40 ~ +85 °C (for range 0~150 psi)
- temperature non-compensated, temperature coefficient of SPAN less than 2.0%fso/10°C
- Surface Mount Technology (SMT)
- molded pressure tube on the top cap
- compact and light weight
- low cost, nice performance in versatile products for OEM applications

### Dimensions (ranges ≤ 0~100 psi):

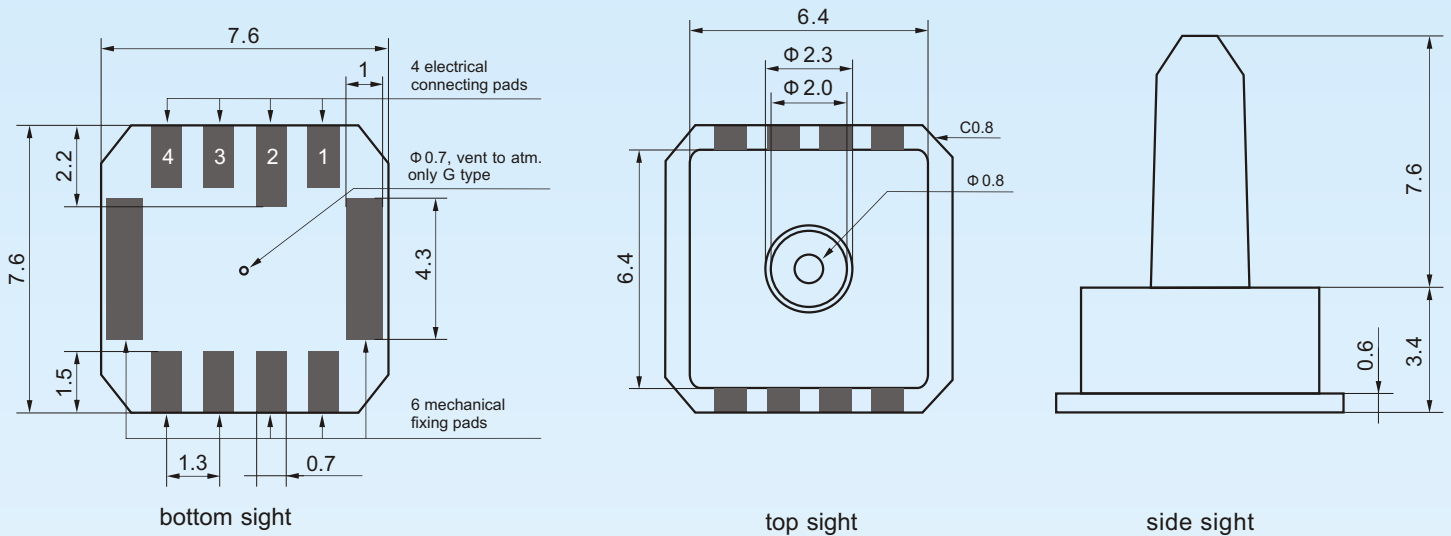


**BCM SENSOR TECHNOLOGIES BVBA**

# Model 113S Plastic Housing OEM Pressure Sensors



## Dimensions (range: 0~150 psi):



## Electrical connection:

pad 1: output +      pad 2: excitation -      pad 3: excitation -      pad 4: output -

## Specifications:

pressure media		non-electroconductive (suggested insulation resistance >20 Mohm) and non-corrosive gas or dilute-liquid
pressure ranges & type	psiG, psiA	0~5, 0~8, 0~15, 0~25, 0~50, 0~80, 0~100
overload pressure	%fs	200
output signal	mV	> 60 (standard); 30 (min.)
combined error	%fso	0.25
repeatability	%fso	<0.2
excitation		0.5~1.5 mA (maximum: 3 mA); or 3V (max.: 10 V).
zero offset	mV	$\pm 25$ (for ranges: $\leq 0\sim 100$ psi); $\pm 50$ (for range: 0~150 psi)
input & output resistance	k $\Omega$	$5 \pm 20\%$ (for ranges: $\leq 0\sim 100$ psi); $3.3 \pm 20\%$ (for range: 0~150 psi)
temperature coefficient of ZERO	%fso/10°C	$\pm 0.7$
temperature coefficient of SPAN	%fso/10°C	$\pm 2.2$
media temperature range	°C	-40 ~ +125 (for ranges: $\leq 0\sim 100$ psi); -40 ~ +85 (for range: 0~150 psi)
storage temperature range	°C	-40 ~ +125
long-term stability	%fso/year	0.5
fatigue life	circle	$10^8$
response time	ms	1(10% ~90%)
humidity limits	%RH	0~80
insulation resistance	M $\Omega$	100 @ 100 Vdc
weight	gram	0.3

Conditions: excitation = 3 V, reference temperature = 25 °C, Test Temperature ranges = 0~50°C; test after 10 minutes excitation on.

NL is calculated using the "least square method".

The listed specifications are subject to change without prior notice.

**How to order:** model - range & type - output - accuracy - customer specific requests

**ordering code** example: 113S - 0~50 psiG - 60 mV - 0.25%fso - no specific requests



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