

Model 113S

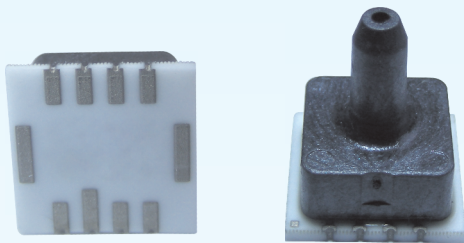
Surface Mounting Pressure Sensors with Plastic Housing



The key component of 113S pressure sensor is the piezoresistive silicon die (model SE103). This pressure sensor die is glued and cured to a surface mounting ceramic substrate. The contacts of the die are wired to the terminals on the ceramic substrate through ball-bonding process. A plastic cap, which provides both protection and pressure interface with either a molded tube (type I) or a hole (type II and III), is used to cover the die. A small vent hole is present at the mounting side for gauge pressure measurement. There are in total 10 pads at the mounting side of the sensor, four of the them are used for electrical connection, while the others for mechanical mounting purpose.

113S pressure sensors can be used to measure either gauge pressure (G) or absolute pressure (A). The measuring ranges of 113S span from 5 psi to 0~500 psi. The non-linearity of the sensor is 0.25 %fso (fso = full scale). These sensors are excited by voltage. The output signal is unconditioned mV signal.

Model 113S pressure sensors are designed for PCB mounting applications which requiring components of small size, lightweight and low cost.

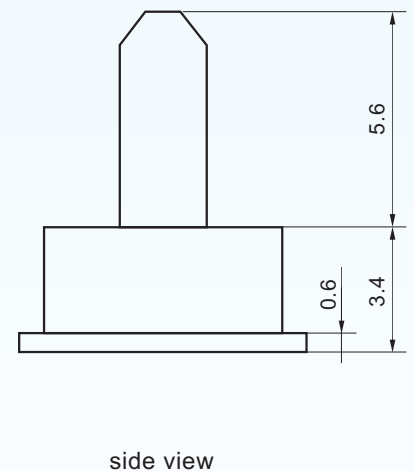
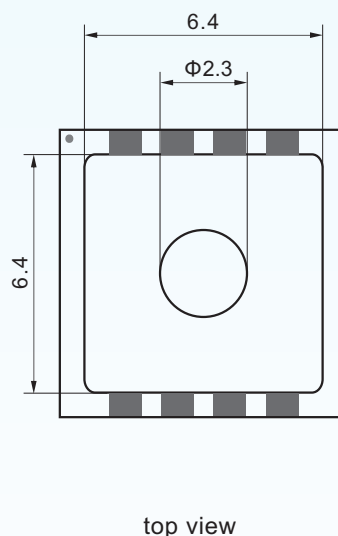
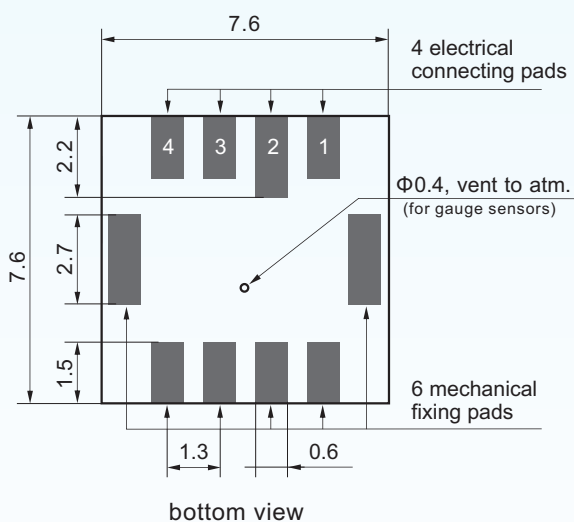


Features:

- surface mount technology (SMT)
- small size, light weight and low cost
- measuring ranges & pressure type:
0~5, ..., 0~100 psiG, 0~15, ..., 0~500 psiA
- typical output signal about 60mV
- nonlinearity of 0.25 %fso
- temperature non-compensated
- operating temperature range: -40 ~ +125 °C

Dimensions:

type I, ranges \leq 0~100 psi



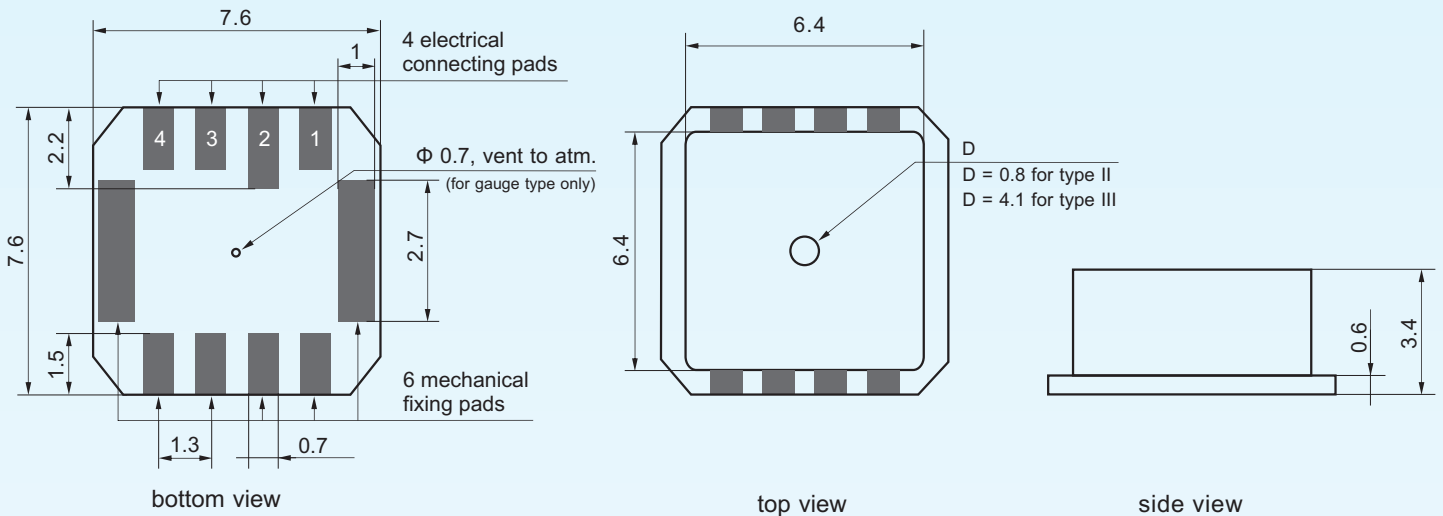
BCM SENSOR TECHNOLOGIES BVBA

Model 113S

Surface Mounting Pressure Sensors with Plastic Housing



type II and type III



Electrical connection:

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

Specifications:

parameters	units	specifications
pressure medium		non-electronic conductive and non-corrosive gas or dilute-liquid compatible with wetted parts materials
pressure ranges and types*	psi, G	0~5, 0~15, 0~30, 0~50, 0~100
	psi, A	0~15, 0~30, 0~50, 0~100, 0~250, 0~500
overload pressure	%fs	300
excitation	Vdc	3 (max. 10)
full scale output @ 5 Vdc	mV	> 60 (typical, min. 30 mV)
ZERO offset	mV	± 25
non-linearity (NL)**	%fso	± 0.25
hysteresis	%fso	± 0.1
repeatability	%fso	≤ 0.2
long term stability	%fso/year	± 0.5
response time	ms	1 (front edge 10 % ~ 90 %)
noise in output (10 Hz ~ 1 kHz)	μV p-p	1
bridge resistance	k Ω	$4.5 \pm 30\%$
storage temperature	$^{\circ}C$	- 50 ~ +150
operating temperature	$^{\circ}C$	- 40 ~ +125
temperature coefficient (TC) of ZERO***	%fso/ $^{\circ}C$	± 0.05
temperature coefficient of SPAN***	%fso/ $^{\circ}C$	- 0.2
thermal hysteresis of ZERO***	%fso	± 0.2
TC of bridge resistance	%/ $^{\circ}C$	0.2
weight	g	~ 0.3

The listed specifications are subject to change without prior notice.

Reference test conditions: excitation = 3 Vdc, reference temperature = 25 $^{\circ}C$, humidity = 40 %RH.

*: For absolute pressure ranges > 100psi, only type II and type III are available.

** : NL is calculated using the "best fit straight line" method.

*** : Test temperature range = 0~50 $^{\circ}C$, reference temperature = 25 $^{\circ}C$.

How to order: model (port type) - pressure range - pressure type

ordering code example: 113S(typell)-50psi-G



BCM SENSOR TECHNOLOGIES BVBA

ISO9001 Certified Company

Industriepark Zone 4, Brechtsebaan 2
B-2900 Schoten - Antwerpen, BELGIUM

Tel.: +32-3-238 6469
Fax: +32-3-238 4171

website: www.bcmsensor.com
email: sales@bcmsensor.com