

Model 115S

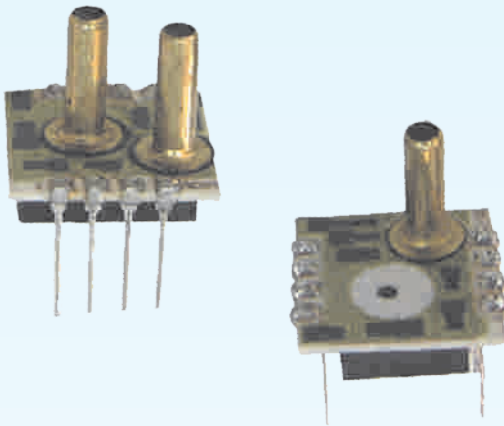
Hybrid Pressure Sensors

Description

The model 115S is a DIP (dual in-line package) pressure sensor based on the BCM piezoresistive silicon sensor die. The sensing element is bonded on a substrate and packaged in a plastic housing. The electrical interface of the 115S is a DIP configuration with 8 pins, which is suitable for PCB integration.

The 115S which features small size, lightweight and low cost is designed to measure differential, gauge or absolute pressure with non-linearity up to 0.5%fs (full scale).

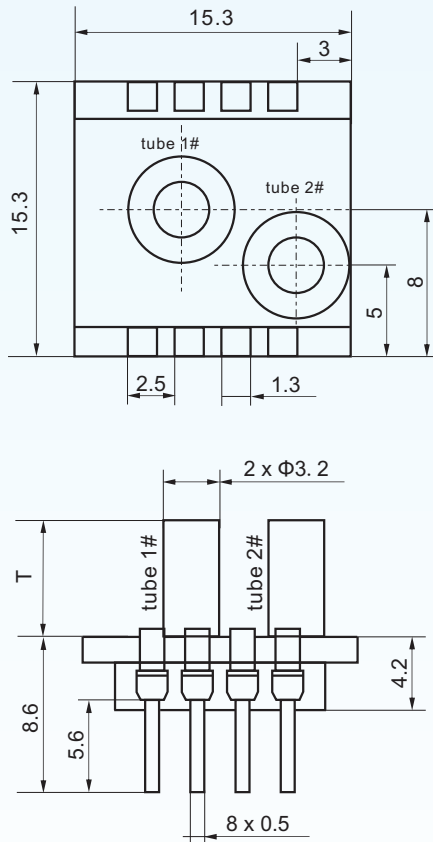
All BCM pressure sensors are delivered with an individual certificate to assist their further applications.



Features

- measuring ranges & pressure types:
 - differential (D): 0~0.025, ..., 0~7 bar
 - gauge (G): 0~0.2, ..., 0~7 bar
 - absolute (A): 0~1, ..., 0~7 bar
- full scale output: 70mV
- operating temperature: -40 ~ +125 °C
- compensated temperature range: 0~60 °C
- construction: DIP for PCB mounting
- applications: ventilation, air flow monitors, leak detection, process control, industrial automation

Dimensions



tube vs. pressure type:

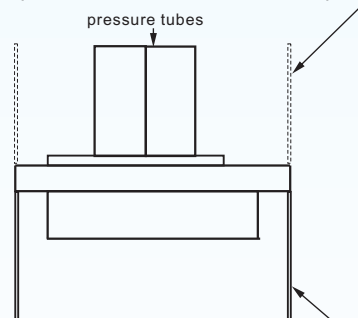
pressure type	tube 1#	tube 2#
D (diff.)	High	Low
A (abs.)	N.A	✓
G.(gauge)	✓	N.A

tube length & codes:

code	T (mm)
L	12
S	8
N	0 (no tube)

DIPS:

DIP pins in the same direction as pressure tube



DIPO:

DIP pins in the opposite direction as pressure tube

Note: All dimensions are in mm.

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Technical Data

parameters		units	specifications
pressure media	tube #1		gases compatible with wetted parts materials
	tube #2		non-corrosive dry gases
pressure ranges and types	bar, D		0~0.025, ~0.07, ~0.2, ~0.35, ~1, ~2, ~3.5, ~7
	bar, G		0~0.2, ~0.35, ~1, ~2, ~3.5, ~7
	bar, A		0~1, ~2, ~3.5, ~7
overload pressure*	%fs		300, but not over 14 bar
full scale output (fso)**	mV		70
zero offset	mV		±2
excitation			5Vdc (max. 10), 1 (max. 2)
nonlinearity (NL)***	%fs		±0.5
hysteresis	%fs		±0.1
response time (10% - 90%)	ms		1
noise in output (10 Hz to 1 kHz)	μVp-p		1
input resistance	kΩ		4.2 ±1.8
output resistance	kΩ		4.2 ±1.8
insulation resistance	MΩ		50 @50Vdc
load resistance	MΩ		2
storage temperature range	°C		-40 ~ +125
operating temperature range	°C		-40 ~ +125
compensated temperature range	°C		0~60
temperature coefficient-SPAN^, \$	%fso/°C		±0.5
temperature coefficient-ZERO^, #	%fso/°C		±0.5
thermal hysteresis-ZERO^	%fso/°C		±0.1
thermal coefficient-resistance^, &	%fso/°C		0.2
process interface (pressure tube)			long tube (length = 12mm, standard), short tube (length = 8mm), no tube
electrical interface			DIP pins in the opposite direction as the pressure tube (standard),
			DIP pins in the same direction as the pressure tube
wetted parts materials			pyrex, ceramic, silicon, RTV, epoxy and stainless steel
net weight	g		~3

The listed specifications and dimensions are subject to change without prior notice.

Reference of test conditions: excitation = 1.5 mA, T = 25 °C, humidity = 40 %RH.

*: 0.35 bar for 0~0.025 bar and 0~0.07 bar sensors, 1.4 bar for 0~0.2 bar and 0~0.35 bar sensors.

**> 25mV for 0~0.025 bar sensors, > 50mV for 0~0.07 bar sensors, > 30mV for 0~0.2 and 0~0.35 bar sensors.

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

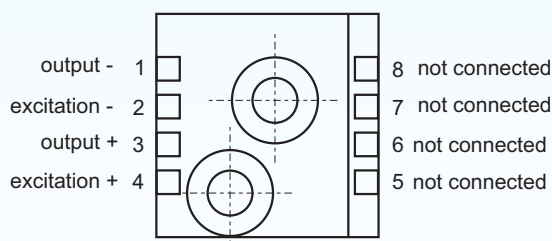
^: Measured over the compensated temperature range (0~60 °C), reference temperature = 25°C.

\$: ±1.0 %fs for 0.025 bar and 0.07 bar sensors, ± 0.75 %fs for 0.14 and 0.35 bar sensors.

#: ±1.25 %fs for 0.025 bar and 0.07 bar sensors, ± 0.75 %fs for 0.14 and 0.35 bar sensors.

&: 0.22 %fs/°C for 0.025 bar and 0.07 bar sensors.

Electrical Connection



Note: soldering temperature = 250°C (for 5 seconds maximum)

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Ordering Information

ordering code: 115S-2-G-L-DIPS-(*)

pressure ranges			
0.025 = 0~0.025 bar	D	2 = 0~2 bar	D, G, A
0.07 = 0~0.07 bar	D	3.5 = 0~3.5 bar	D, G, A
0.2 = 0~0.2 bar	D, G	7 = 0~7 bar	D, G, A
0.35 = 0~0.35 bar	D, G	customized range available as an option	
1 = 0~1 bar	D, G, A		

pressure types
D = differential pressure
G = gauge pressure (standard)
A = absolute pressure

process interface
L = long pressure tube, length = 12mm
S = short pressure tube, length = 8mm
N = no pressure tube

electrical interface
DIPS = DIP pins in the same direction as pressure tube
DIPO = DIP pins in the opposite direction as pressure tube

customized parameter
“(*)” is necessary only if any customized parameter is required, otherwise it is neglectable.

Examples of Ordering Code

- standard sensor:
model-pressure range-pressure type-process interface-electrical interface
115S-1-G-L-DIPS
- customized sensor:
model-pressure range-pressure type-process interface-electrical interface-customized parameter
115S-5-G-L-DIPS-(*)
(*): Customized pressure range = 0~5 bar.



ISO9001 Certified Company

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