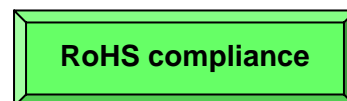
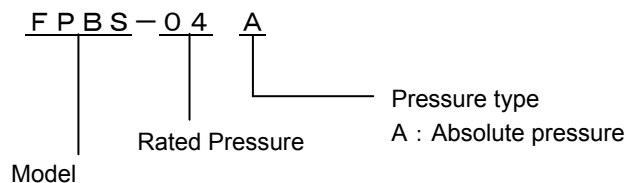


### ■Features

- Barometric pressure measurable
- Non-corrosive gas, Water or Sea water
- Very small size

### ■Ordering Information



Measurable pressure range(kPa.abs)	Part number
62.1 to 434.7	FPBS-04A
101.3 to 905.5	FPBS-82A

### ■Specifications

Model	FPBS-04A	FPBS-82A	Unit
<b>Recommended operating conditions</b>			
Pressure type	Absolute pressure		-
Rated pressure	434.7	905.5	kPa.abs
Measurable pressure range	62.1 to 434.7	101.3 to 905.5	kPa.abs
Temperature range	10 to 40	5 to 35	deg.C
Pressure media	Non-corrosive gases , Water or Sea water <b>**1</b>		-
Excitation current (Constant)	0.15		mADC
<b>Absolute maximum rating</b>			
Maximum load pressure	1961	2942	kPa.abs
Maximum excitation current	3.0		mADC
Operating temperature	-20 to 70		deg.C
Storage temperature	-30 to 85		deg.C
Operating humidity	30 to 80 (Non dew condition)		%RH
<b>Electric characteristics (Drive Current 0.15mA constant , ambient temperature Ta=25deg.C)</b>			
Output span voltage	2.5 to 7.0 (at 62.1 to 101.3kPa.abs)	5.0 to 9.0 (at 101.3 to 905.5kPa.abs)	mV
Offset voltage	1.0 to 11.0 (at 62.1 kPa.abs)	-1.0 to 3.0 (at 101.3 kPa.abs)	mV
Bridge resistance	3000 to 4500		Ω
Response time	2 (for the reference)		msec.
Accuracy	TSO*	+/-5%FS /10 to 40deg.C	+/-5%FS /5 to 35deg.C
	TCS*	2.5%FS /10 to 40deg.C	2.5%FS /5 to 35deg.C
	Linearity	+/-0.5%FS (62.1 to 101.3kPa.abs)	+/-0.5%FS (101.3 to 905.5kPa.abs)

\*TSO : Temperature sensitivity of offset voltage

\*TCS : Temperature coefficient of output span voltage

**\*\*1** it's not available when pressure media always contact.

## Evaluating equations

$V(P,T)$  is defined as the output voltage at Pressure kPa.abs, Temperature T.

## • Full scale span voltage

$$(04A): SV = \text{SPAN}[62.1 \text{ to } 101.3 \text{ kPa}] = \text{SPAN}(25) = V(101.3, 25) - V(62.1, 25)$$

$$(82A): SV = \text{SPAN}[101.3 \text{ to } 905.5 \text{ kPa}] = \text{SPAN}(25) = V(905.5, 25) - V(101.3, 25)$$

## • Offset voltage

$$(04A): V_{\text{off}} = V(62.1, 25)$$

$$(82A): V_{\text{off}} = V(101.3, 25)$$

## • Temperature sensitivity of offset (TSO)

$$(04A): \text{TSO} = (V(62.1, 40) - V(62.1, 10)) / \text{SPAN}(25) \times 100$$

$$(82A): \text{TSO} = (V(101.3, 35) - V(101.3, 5)) / \text{SPAN}(25) \times 100$$

## • Temperature coefficient of sensitivity (TCS)

$$(04A): \text{TCS} = (\text{SPAN}(\text{MAX.}) - \text{SPAN}(\text{MIN.})) / \text{SPAN}(25) \times 100$$

$$(82A): \text{TCS} = (\text{SPAN}(\text{MAX.}) - \text{SPAN}(\text{MIN.})) / \text{SPAN}(25) \times 100$$

SPAN(MAX.): =The value is bigger of SPAN

SPAN(MIN.): =The value is smaller of SPAN

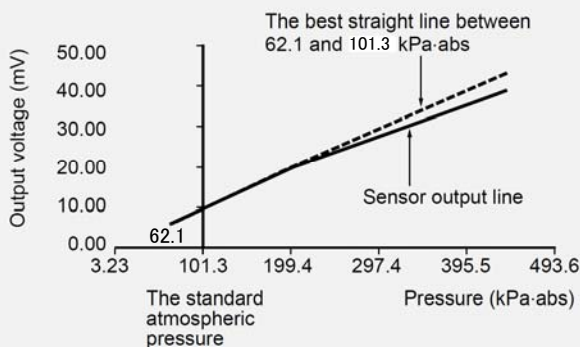
## • Linearity

$$(04A): \text{NL} = (V(86.6, 25) - (V(62.1, 25) + V(101.3, 25)) / 2) / \text{SPAN}(25) \times 100$$

$$(82A): \text{NL} = (V(503.4, 25) - (V(101.3, 25) + V(905.5, 25)) / 2) / \text{SPAN}(25) \times 100$$

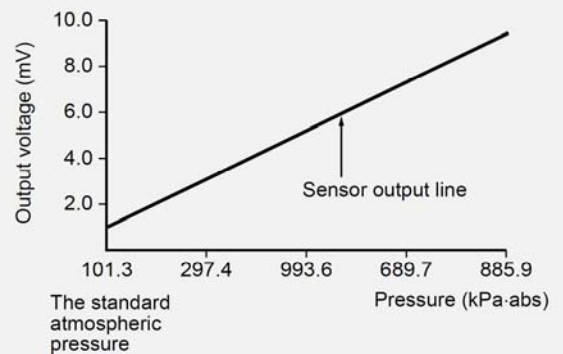
## ● Example of output characteristics(04A)

Excitation current :  $i=0.15\text{mA}$  Constant  
Temperature :  $T_a=25^\circ\text{C}$

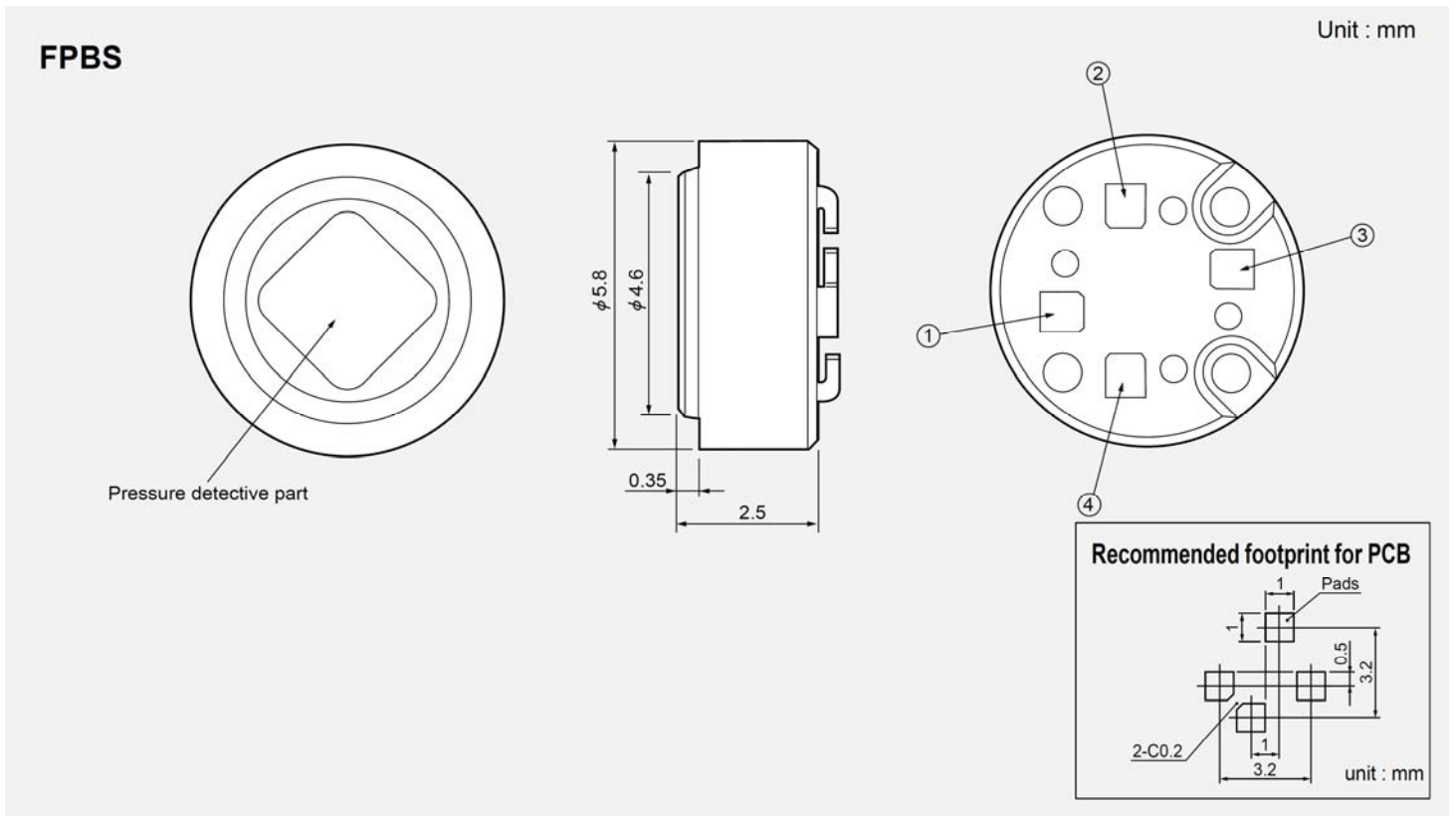


## ● Example of output characteristics(82A)

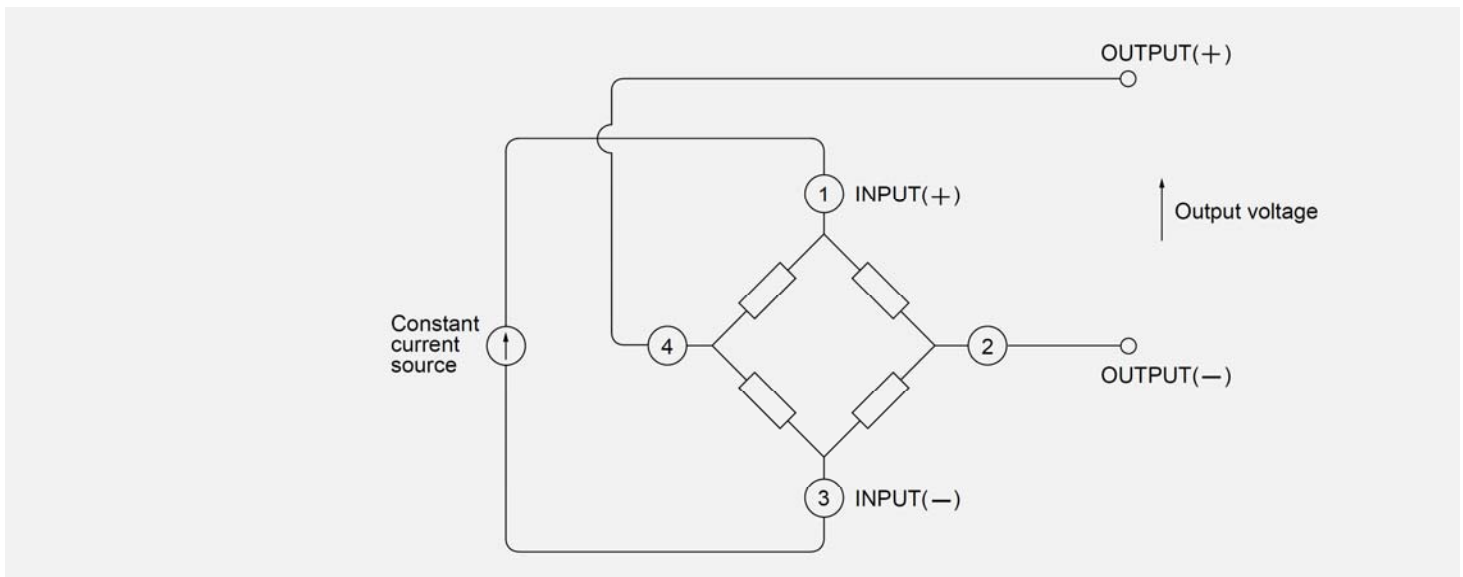
Excitation current :  $i=0.15\text{mA}$  Constant  
Temperature :  $T_a=25^\circ\text{C}$



■Outline dimensions■



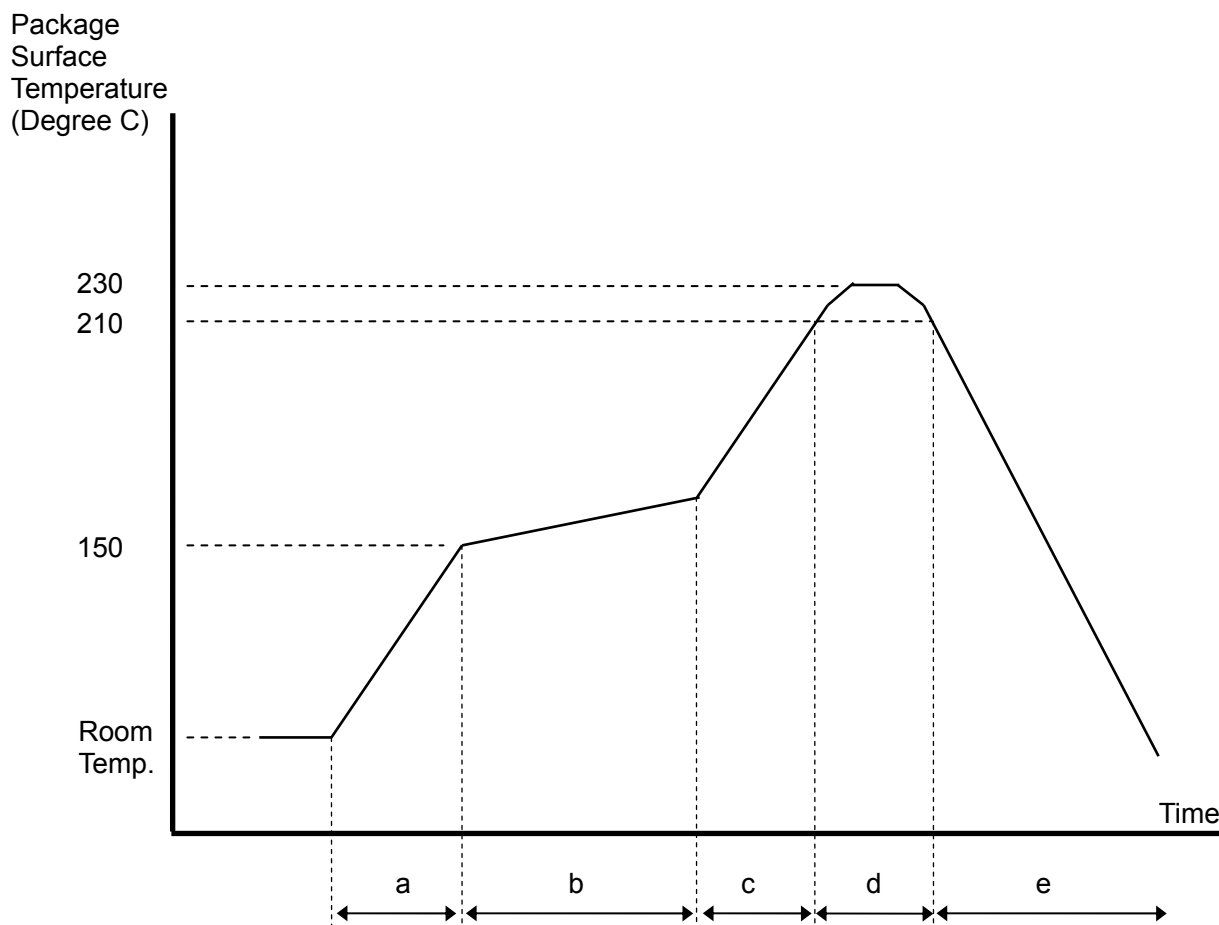
■Connection diagram■



Note ; Please read instruction "Notes" before using the sensor.  
 Fujikura reserves the right to change specifications without notice.

Please set Zero-calibration function up your products. The offset voltage may be shifted some mechanical stress such as mounting, installation and etc. over longtime using.

## Reflow Soldering process recommendation profile



- |                   |  |
|-------------------|--|
| a: Ramp up rate   | 1 or 2 deg.C/sec.                                    |
| b: Pre-heating    | 150 to 180 deg.C, within 60 to 120sec.               |
| c: Ramp up rate   | 1 to 2 deg.C/sec.                                    |
| d: Heating        | max. 230 deg.C, max. 10sec. 210 deg.C, within 30sec. |
| e: Ramp down rate | 1 or 2 deg.C/sec.                                    |

- Note ;
- 1 ) Temperature means Surface temperature of the sensor package.
  - 2 ) Reflow process max. 2 times.
  - 3 ) Do not wash the sensor.
  - 4 ) Do not put the solder and flux on the sensor package.

If you have any questions regarding technical issues or specifications, please contact us.  
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