X3DM Data sheet

■Features

- 3V excitation, Battery operation available
- Very small surface mountable package, Easy to mount on PCB
- Volt level output
- On-chip amplification and temperature compensations
- Pre-calibration of offset voltage and span

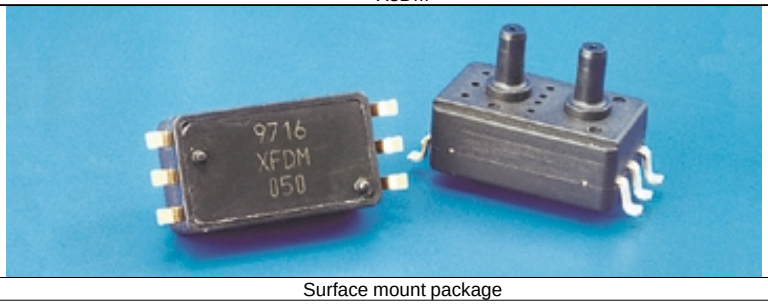
■Applications

- Industrial instrumentation
- Pressure switch, Pneumatic device
- Medical device

■Part number for ordering

X3DM - 050KP D S R

- Model: X3DM
- Rated pressure (Pa)
- Pressure type: D : Differential; DW : Differential (Bipolar pressure)
- Terminal leads configuration: S : Surface mount package
- Terminal leads direction (See Outline Diagram): R :

Pressure type	Differential pressure
Model	X3DM 
Package configuration	Surface mount package

Measurable pressure range (kPa)	Part number for ordering
−100～100	X3DM-100KPDWSR
0～50	X3DM-050KPDSR
0 ～100	X3DM-100KPDSR
0～200	X3DM-200KPDSR
0 ～1000	X3DM-001MPDSR

■Specifications

Model/Rated pressure	100KPDW	050KPD	100KPD	200KPD	001MPD	Unit
Recommended operating conditions						
Pressure type	Differential pressure					—
Rated pressure	±100	50	100	200	1000	kPa
	±1.020	0.510	1.020	2.040	10.20	kg/cm²
Measurable pressure range	−100～100	0～50	0～100	0～200	0～1000	kPa
Pressure media	Non-corrosive gas only					—
Excitation voltage	3.0±0.15					VDC
Absolute maximum rating						
Maximum load pressure	Twice of rated pressure				1.5times of rated pressure	
Maximum excitation voltage	6					VDC
Operating temperature	−10～80					℃
Storage temperature	−20～100					℃
Operating humidity	30～80 (No dew condensation)					%RH
Electric performances/characteristics(Excitation voltage Vcc=3.0V constant, Ambient temperature Ta=25℃)						
Current consumption	less than 6					mA
Output impedance	less than 10					Ω
Source current	less than 0.1					mA
Sink current	less than 1					mA
Mechanical response time	2 (For the reference)					msec
Full scale span voltage	1.5					V
Offset voltage※1, 2	0.5±0.075					V
Full scale span voltage ※1, 2	2.0±0.075					V
Accuracy ※2	±5.0					%FS/0～50℃

Note ; ※1) Output refers to pressure at pressure port 2.
※2) Excluding input voltage error.

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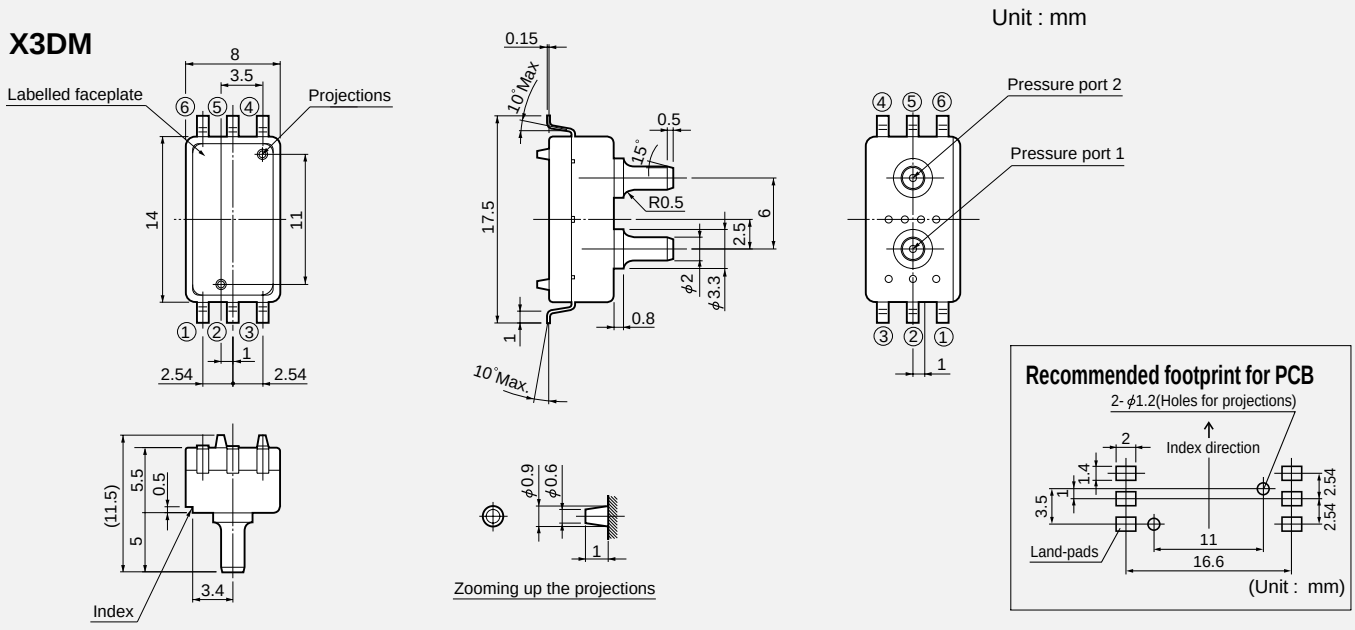
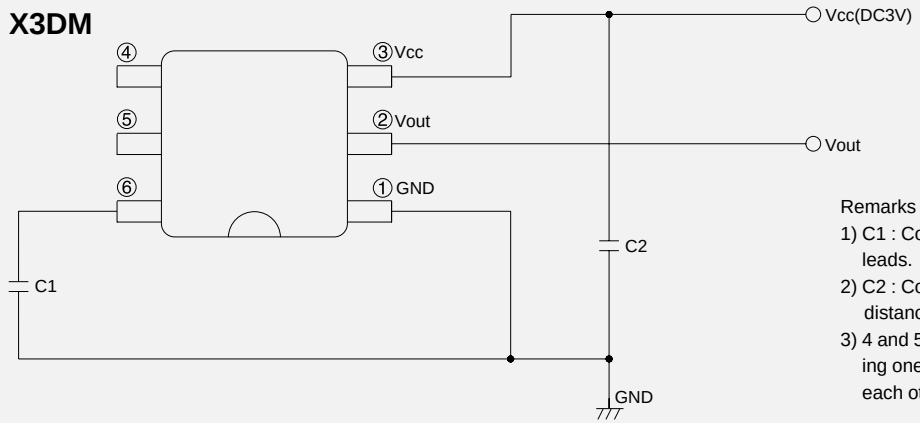
■Outline dimensions■

Unit : mm



■Connection diagram■



Remarks :

1) C1 : Connect 680pF capacitor within 2cm distance from leads.
2) C2 : Connect 0.01μF or more capacitor within 2cm distance from leads.
3) 4 and 5 pins must be No Connection. Open them as floating ones completely, and do NOT connect to other line or each other.

■Transfer Function■

Vout=Vs×(P×α+β)±(Pressure Error×Temperature Error Multiplier×α×Vs)

※Vs=3.0volts Notes ; The output voltage (Vout) is no perfect ratiometric with the power supply voltage.

※P=Input Pressure(kPa)

Model	pressure range	α	β	Pressure Error(kPa)
050KPG(D)	0～50kPa	0.01	0.1667	2.5
100KPG(D)	0～100kPa	0.005	0.1667	5.0
100KPGV	0～−100kPa	−0.005	0.1667	5.0
100KPGW(DW)	−0～+100kPa	0.0025	0.4667	10.0
200KPG(D)	0～200kPa	0.0025	0.1667	10.0
001MPGW(D)	0～+1MPa	0.0025	0.1667	50.0
115KPA	15～115kPa.abs	0.005	0.09167	5.0

※Temperature Error Multiplier=1

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

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