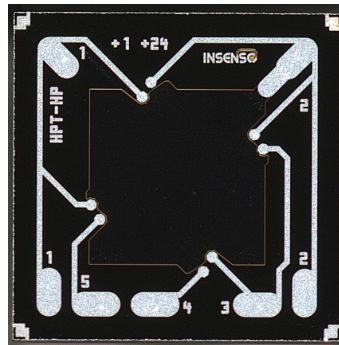


IPD10 SERIES - High Precision Technology

Absolute, gage and differential silicon pressure sense dies



Key Features

- World leading long-term stability
- Lowest pressure and temperature hysteresis
- Fast response
- High impedance bridge
- Pressure proportional output signal

Applications

- Industrial controls
- Medical instrumentations
- High precision pressure measurements

Media

- Dry air
- Oil filled transmitters
- Non-corrosive gases
- Vacuum applications
- High static pressure

Technology

- Piezo resistive Wheatstone bridge utilized with glass or silicon backplate

Shipping

- Wafers on tape and frame
- Waffle pack on request for samples

Specification

Parameter	Range	Min.	Typ.	Max.	Unit
Electric and environmental					
Bridge resistance	All	5.8	6.3	6.8	kOhm
Supply voltage	All		5	12	V
Operating Temperature	All	-40		+125	°C
Storage Temperature	All	-50		+150	
Temperature coefficient^{a)}					
Offset	All	-0.05 ^{b)}	±0.01	+0.05 ^{b)}	%FSS/K
Output span	All	-0.23 ^{c)}	-0.20	-0.17 ^{c)}	
Bridge resistance	All	+0.07	+0.09	+0.11	%/K
Performance^{d)}					
Offset	All	-25	0	+25	mV
Non-linearity ^{e)}	All	-0.5	±0.3	+0.5	%FSS
Pressure repeatability	All	-0.05	±0.02	+0.05	
Temperature hysteresis ^{f)}	All	-0.1	±0.05	+0.1	
Long-term stability	All	-0.05	±0.02	+0.05	%FSS/year
Full scale output					
IPD10-LP-05D040M	40mbar	25	45	70	mV@5V
IPD10-LP-xxx100M	100mbar	60	100	140	
IPD10-MP-xxx400M	400mbar	60	100	140	
IPD10-MP-xxx001B	1bar	60	100	140	
IPD10-HP-xxx004B	4bar	60	100	140	
IPD10-HP-xxx010B	10bar	60	100	140	
IPD10-HP-xxx040B	40bar	60	100	140	
IPD10-HP-08A100B	100bar	60	100	140	
IPD10-HP-08A400B	400bar	60	100	140	
Customized	Cust.		Cust.		

a) 25°...85°C

b) -0.10...+0.10 %FSS/K for IPD10-LP-xxGxxxx and IPD10-MP-xxA/Gxxxx

c) -0.27...-0.13 %FSS/K for IPD10-LP-xxA/G100M

d) Parameter is significantly impacted by the packaging

e) End point straight line, -1.2...+1.2 %FSS/K for IPD10-LP-xxA/G100M

f) 25°...125°...25°C,

IPD10 SERIES - High Precision Technology

Absolute, gage and differential silicon pressure sense dies



Options

Parameter	Range	Min. from front side	Min. from rear side	Unit
Overload and burst pressure				
IPD10-LP-05D040M	40mbar	>3	>1.5	bar
IPD10-LP-xxx100M	100mbar	>5 ^{a)}	>2.5 ^{a)}	
IPD10-MP-xxx400M	400mbar	>12	>6	
IPD10-MP-xxx001B	1bar	>20	>10	
IPD10-HP-xxx004B	4bar	>40	>20	
IPD10-HP-xxx010B	10bar	>70	>50	
IPD10-HP-xxx040B	40bar	>120	>60	
IPD10-HP-08A100B	100bar	>200	-	
IPD10-HP-08A400B	400bar	>800	-	
Customized	Cust.	Cust.	Cust.	

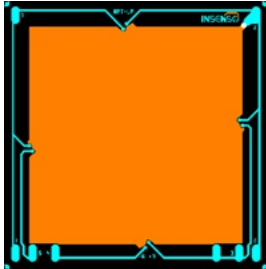
a) 3bar from FS and 1bar from RS for IPD10-LP-20Gxxxx type

Die Layout and Size

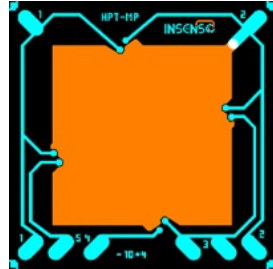
Low Pressure (LP)

Medium Pressure (MP)

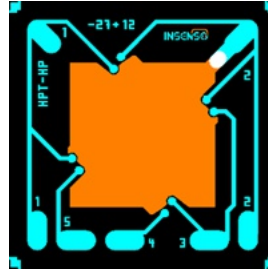
High Pressure (HP)



4.65 x 4.65 mm



2.65 x 2.65 mm

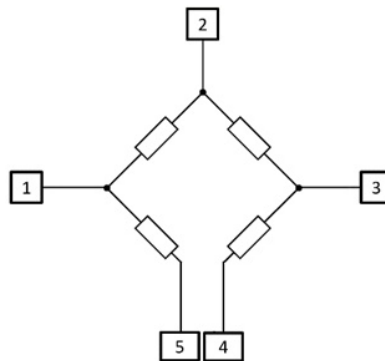


2.05 x 2.05 mm

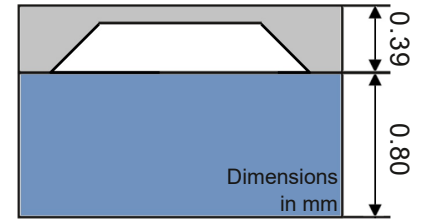
Electrical Connection

Bondpad Signal

Output	Signal
1	-Vout
2	+Vsupply/substrate
3	+Vout
4	-Vsupply
5	-Vsupply

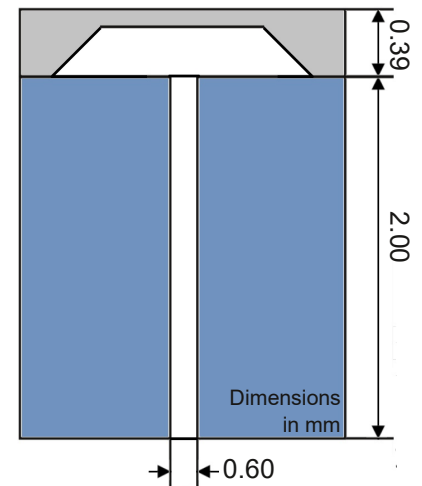


IPD10-xP-08Axxxx



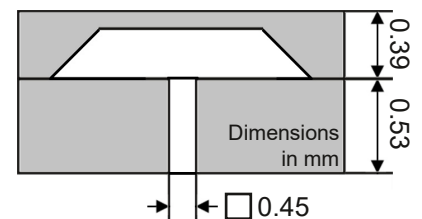
for Pressure Range 400mbar to 400bar

IPD10-xP-20Gxxxx



for Pressure Range 100mbar to 40bar

IPD10-xP-05Dxxxx



for Pressure Range 10mbar to 10bar

Ordering Code

Series	Size	Backplate Option / Type	Range	Unit	
IPD10	LP	4.65x4.65mm	05D	0.5mm / Differential	040 M mbar
	MP	2.65x2.65mm	08A	0.8mm / Absolute	100
	HP	2.05x2.05mm	08G	0.8mm / Gage	400
			20G	2.0mm / Gage	001 B bar
					004
				010	
				040	
				100	
				400	

Order Code Example

IPD10 - MP 2.65x2.65mm - 05D 0.5mm / Differential 001 B bar

IPD10-MP-05D001B