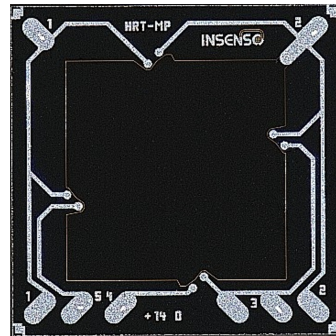


IPD40...42 SERIES - High Robust Technology

Absolute and gage silicon pressure sense dies



Key Features

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

Applications

- Industrial controls
- Medical instrumentations
- Encapsulated pressure sensors
- Board level pressure sensors

Media

- Dry air
- Oil filled transmitters
- Non-corrosive gases
- Vacuum applications

Technology

- Piezo resistive Wheatstone bridge utilized with glass 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	IPD40	5.0	5.5	6.0	kOhm
	IPD41/2	3.1	3.6	4.1	
Supply voltage	All		5	12	V
Operating Temperature	All	-40		+125	°C
Storage Temperature	All	-50		+150	
Temperature coefficient^{a)}					
Offset	All	-0.04 ^{b)}	±0.02	+0.10 ^{b)}	%FSS/K
Output span	All	-0.23	-0.20	-0.17	
Bridge resistance	IPD40/2	+0.27	+0.31	+0.35	%K
	IPD41	+0.20	+0.24	+0.28	
Performance^{c)}					
Offset	All	-25	0	+25	mV@5V
Non-linearity ^{d)}	All	-0.5	±0.2	+0.5	%FSS
Pressure repeatability	All	-0.05	±0.02	+0.05	
Temperature hysteresis ^{e)}	All	-0.1	±0.05	+0.1	
Long-term stability	All	-0.1	±0.05	+0.1	%FSS/year

a) 25°...85°C

b) 0.00...+0.25 %FSS/K for IPD4x-MP-xxG100M and IPD4x-MP-xxG250M

c) Parameters are significantly impacted by the packaging.

d) End point straight line, -0.6...+0.6 %FSS for IPD4x-MP-xxxx

e) 25°...125°...25°C

Full scale output					
IPD4x-MP-xxG100M	100mbar	20	60	120	mV@5V
IPD4x-MP-xxG160M	160mbar	30	100	190	
IPD4x-MP-xxG250M	250mbar	45	100	155	
IPD4x-MP-xxx400M	400mbar	50	100	150	
IPD4x-MP-xxx600M	600mbar	60	100	140	
IPD4x-HP-xxx001B	1bar	50	100	150	
IPD4x-HP-xxx1.6B	1.6bar	55	100	145	
IPD4x-HP-xxx2.5B	2.5bar	60	100	140	
IPD4x-HP-xxx004B	4bar	60	100	140	
IPD4x-HP-xxx006B	6bar	60	100	140	

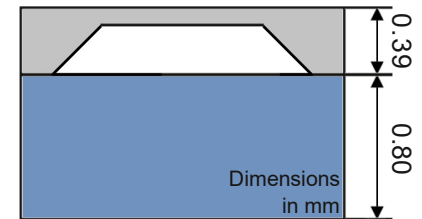
IPD40...42 SERIES - High Robust Technology

Absolute and gage silicon pressure sense dies



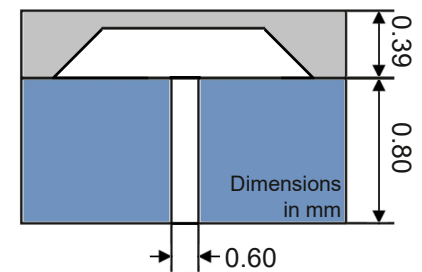
Options

IPD4x-xP-08Axxxx



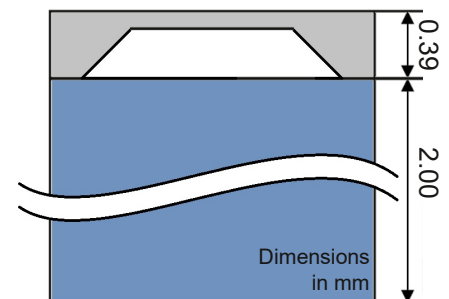
for Pressure Range 400mbar to 600bar

IPD4x-xP-08Gxxxx



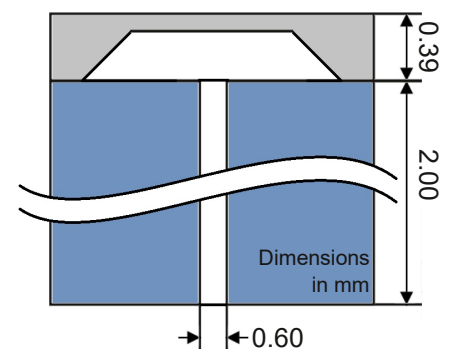
for Pressure Range 100mbar to 250bar

IPD4x-xP-20Axxxx



for Pressure Range 400mbar to 600bar

IPD4x-xP-20Gxxxx



for Pressure Range 100mbar to 250bar

Parameter	Range	Min.	Typ.	Max.	Unit
Full scale output (cont.)					
IPD4x-HP-xxx010B	10bar	60	100	140	mV@5V
IPD4x-HP-xxx016B	16bar	60	100	140	
IPD4x-HP-xxx025B	25bar	60	100	140	
IPD4x-HP-xxx040B	40bar	60	100	140	
IPD4x-HP-xxx060B	60bar	60	100	140	
IPD4x-HP-xxx100B	100bar	60	100	140	
IPD4x-HP-xxx160B	160bar	60	100	140	
IPD4x-HP-xxx250B	250bar	60	100	140	
IPD4x-HP-xxA400B	400bar	60	100	140	
IPD4x-HP-xxA600B	600bar	60	100	140	
Customized	Cust.		Cust.		

Parameter	Range	Min. from front side	Min. from rear side	Unit
Overload and burst pressure				
IPD4x-MP-xxG100M	100mbar	>6	>3	bar
IPD4x-MP-xxG160M	160mbar	>8	>4	
IPD4x-MP-xxG250M	250mbar	>10	>5	
IPD4x-MP-xxx400M	400mbar	>12	>6	
IPD4x-MP-xxx600M	600mbar	>14	>8	
IPD4x-HP-xxx001B	1bar	>20	>10	
IPD4x-HP-xxx1.6B	1.6bar	>30	>15	
IPD4x-HP-xxx2.5B	2.5bar	>40	>20	
IPD4x-HP-xxx004B	4bar	>45	>24	
IPD4x-HP-xxx006B	6bar	>50	>26	
IPD4x-HP-xxx010B	10bar	>75	>50	
IPD4x-HP-xxx016B	16bar	>90	>60	
IPD4x-HP-xxx025B	25bar	>125	>75	
IPD4x-HP-xxx040B	40bar	>150	>75	
IPD4x-HP-xxx060B	60bar	>175	>75	
IPD4x-HP-xxx100B	100bar	>200	>75	
IPD4x-HP-xxx160B	160bar	>320	>75	
IPD4x-HP-xxx250B	250bar	>500	>75	
IPD4x-HP-xxA400B	400bar	>800 ^{a)}	-	
IPD4x-HP-xxA600B	600bar	>1200 ^{a)}	-	
Customized	Cust.	Cust.	Cust.	

a) by design. To be tested in the application

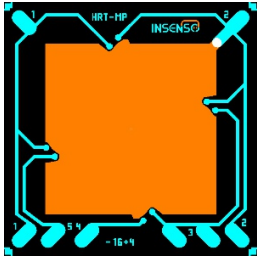
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Absolute and gage silicon pressure sense dies

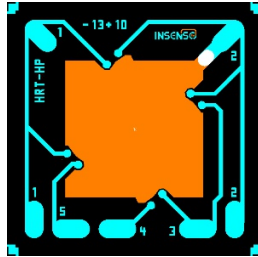


Die Layout and Size

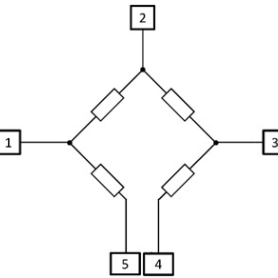
Medium Pressure (MP) High Pressure (HP)



2.65 x 2.65 mm



2.05 x 2.05 mm



Electrical Connection

Bondpad Signal

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

Ordering Code

Series	Size		Backplate Option / Type		Range Unit		
	Part Number	Pressure					
IPD40	MP	2.65x2.65mm	08A	0.8mm / Absolute	100	M	mbar
IPD41	HP	2.05x2.05mm	08G	0.8mm / Gage	160		
IPD42			20A	2.0mm / Absolute	250		
			20G	2.0mm / Gage	400		
					600		
					001	B	bar
					1.6		
					2.5		
					004		
					006		
					010		
					016		
		025					
		040					
		060					
		100					
		160					
		250					
		400					
		600					

Order Code Example

IPD41 - **HP** 2.05x2.05mm - **08A** 0.8mm / Absolute **001** **B** bar

IPD41-HP-08A001B