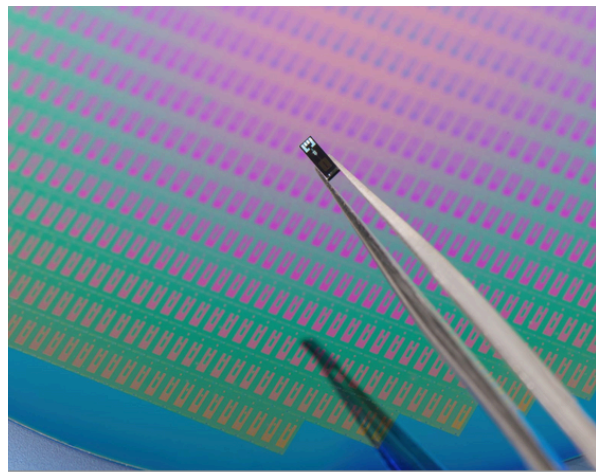




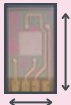
Sensor Portfolio

Advanced Solutions from our Microfoundry

Tailoring solutions for small to medium-sized device manufacturers, Millar is the ideal vertical integration partner specializing in end-to-end MEMS pressure and pH sensor design, fabrication, integration, and full-volume manufacturing. Our microfoundry is the heart of Millar's sensor development process, offering off-the-shelf and custom solutions to meet our customers' unique needs.



MEMS Pressure Sensors

Pressure Sensors	PFB1100 Full Bridge	PFB1000 Full Bridge	PFB800 Full Bridge	PFB440 Full Bridge	PHB225 Half Bridge
	 3000µm 3mm 1100µm 1.1mm	 1800µm 1.8mm 1000µm 1mm	 1600µm 1.6mm 800µm 0.8mm	 1000µm 1mm 440µm 0.44mm	 650µm 6mm 225µm 0.225mm

Specifications

	PFB1100 Full Bridge	PFB1000 Full Bridge	PFB800 Full Bridge	PFB440 Full Bridge	PHB225 Half Bridge
Circuit	4 MEMS piezoresistors				2 MEMS piezoresistors
Sensitivity	8-15 µV/V/mmHg				5 µV/V/mmHg
Pressure Range	-300 to +1000 mmHg				-50 to 300 mmHg
Accuracy & Linearity	< 1% error over -50 to 200 mmHg applied pressure				+/- 1% error over -50 to 150 mmHg applied pressure
Temperature Error	< 1% (15-40) deg C.				< 3.5% (15-40) deg C.
Drift	Average = 0.2 ± 0.1 mmHg over 3 hours				Average = 0.89 ± 0.44 mmHg over 7 days
Bridge Resistance	3.9K to 5.1K				3.4 KΩ +/- 20%
Resolution	Analog output				
Sensor Type	Vented				Absolute

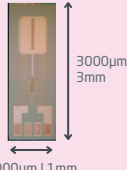
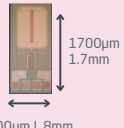
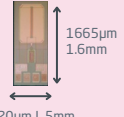
For inquiries, quotes, and orders, contact:

insights@millar.com

T: +1 832-667-7000

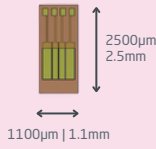
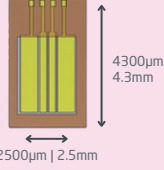
millar.com/OEM-Solutions/Sensor-Foundry

ISFET pH Sensors

pH Sensors	ISFET1000	ISFET800	ISFET520
	 1000µm 1mm	 800µm .8mm	 520µm .5mm

Specifications			
	ISFET1000	ISFET800	ISFET520
Sensor	Glass-free Ion Sensitive Field Effect Transistor (ISFET) semiconductor		
pH Range	0-14 pH		
Accuracy	+/- 0.02 pH		
Resolution	0.01 pH		
Drift Maximal (in pH7 @ 25° C.)	0.14 pH/day		
Drift Typical (in pH7 @ 25° C.)	0.05 pH/day and lower		
Calibration	1,2,3 and 5-point calibration		
Automatic Temperature Compensated (ATC) calibration	Yes		

4-Electrode Conductivity (EC) Sensors

EC Sensors	EC1	EC2
	 1100µm 1.1mm	 2500µm 2.5mm

Specifications		
	EC1	EC2
Cell constant K (typical)	3.89 cm-1	1.24 cm-1
Measurement range	50 to 111,800 µS/cm	
Accuracy within 1%	50 to 12,880 µS/cm	
Accuracy within 10%	50 to 111,800 µS/cm	
Resolution (50 to 12,880 µS/cm)	0.5 nS/cm	2nS/cm
Resolution (50 to 111,800 µS/cm)	50 nS/cm	250 nS/cm
Drift typical	2.5 µS/cm/day	2.0 µS/cm/day
Material of bond pads	Platinum	
Recommended AC driving current (typical)	75 µA	
Recommended AC driving voltage (typical)	3.0V	