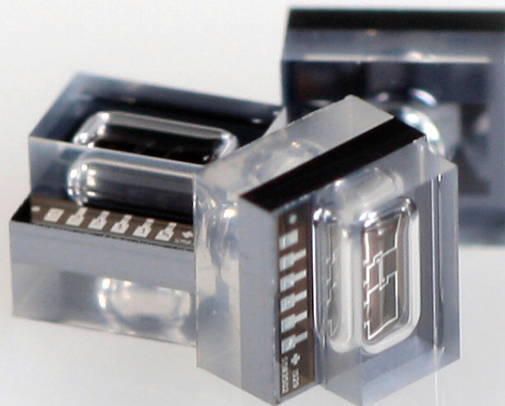


PRESSURE SENSOR DIE

0 to 1500 kPa (0 to 218 psi)

Features

- **Absolute pressure sensor die**
- **High reliability and low drift over lifetime**
- **High media compatibility**
- **Backside media access**
- **Wide temperature operating range**
- **Single side bond pad access**



Description

The SW414-15 uncompensated piezoresistive pressure sensor die is bulk micromachined and designed for affordable and reliable high pressure measurements in a broad range of industrial applications and designs.

SW414-15 has excellent media compatibility due to the patented triple stack sensor design with buried backside piezoresistive elements. With the backside media access, the piezo resistors will not come in direct contact with the measurement media. The design improves stability and sensor lifetime compared to many traditional sensor designs.

The design and performance of SW414-15 makes it ideal for high accuracy measurements, also in harsh environments. The long term stability is outstanding and has been proven in applications during a period of more than 10 years.

The sensor die can be connected to passive compensation and/or signal conditioning as required for a given application.

All sensor die products are 100% electrically tested and visually inspected.

SW414-15 is offered as bare die and wafer deliveries.

SW414-15
SW414-15W

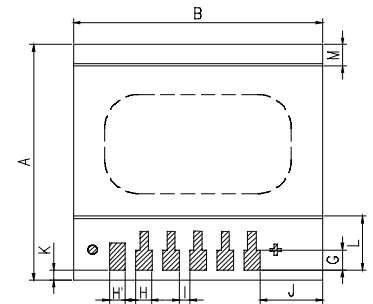
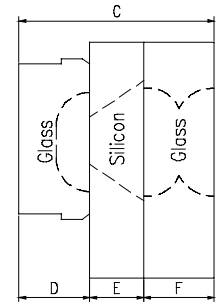
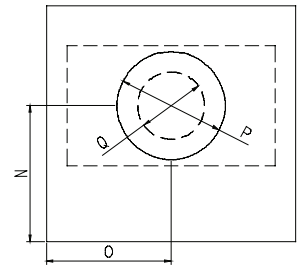
GENERAL CONDITIONS

Parameter	Min	Typ	Max	Unit	Comments
Operating supply voltage		5.0		V	
Operating temperature	-40		125	°C	
Operating pressure	0		1500	kPa	Absolute pressure
Overload pressure	3300			kPa	
Breakdown voltage		14		V	At I=5.0µA
Leakage current		0.2		nA	At Vdd=4.0V

MECHANICAL DIMENSIONS (in µm)

DIM
A
B
C
D
E
F
G
H
H'
I
J
K
L
M
N
O
P
Q

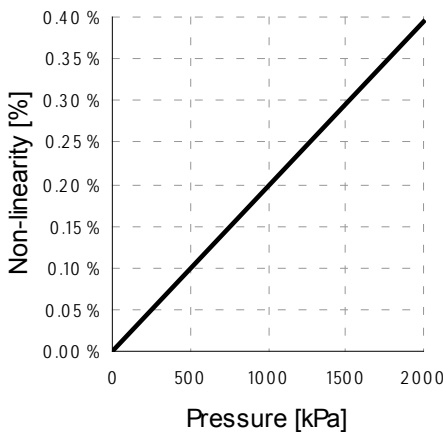
Typ
1780
1880
1450
525
400
525
150
120
118
80
480
90
400
175
1025
940
800
500



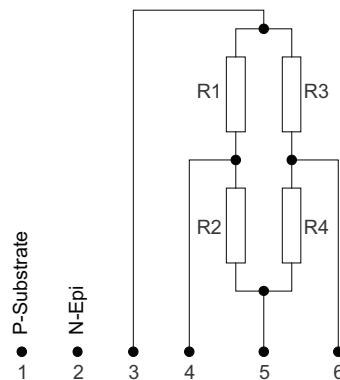
FUNCTIONAL CHARACTERISTICS (@25°C,5V)

Parameter	Typ	Unit
Bridge resistor		
Bridge resistance	3.7	kΩ
Temp.coeff. bridge resistor (1 st order)	1.5	10 ⁻³ /°C
Temp.coeff. bridge resistor (2 nd order)	9.0	10 ⁻⁶ /°C ²
Common mode voltage	0.5*Vdd	V
Sensitivity		
Sensitivity	12	µV/VkPa
Temp.coeff. sensitivity drift (1 st order)	-2.5	10 ⁻³ /°C
Non linearity	See separate chart	%FSO
Zero point		
Zero point	±2.6	mV/V
Temp.coeff. zero point drift (1st order)	±20	µV/V°C

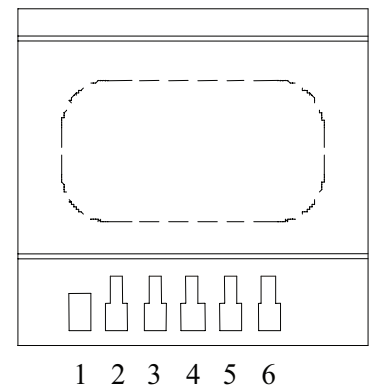
NON-LINEARITY



ELECTRICAL CIRCUIT DIAGRAM



ELECTRICAL CONTACTS



ORDERING INFORMATION

Description
10 or 100 dies in waffle packs
Diced wafers on tape

Model
SW414-15
SW415-15W

CONTACT INFORMATION

Sensoror Technologies AS
Phone: +47 3303 5000 - Fax: +47 3303 5005
sales@sensoror.no www.sensoror.com

Information furnished by Sensoror Technologies is believed to be accurate and reliable. However, no responsibility is assumed by Sensoror Technologies for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Sensoror Technologies reserves the right to make changes without further notice to any products herein. Sensoror Technologies makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Sensoror Technologies assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. No license is granted by implication or otherwise under any patent or patent rights of Sensoror Technologies. Trademarks and registered trademarks are the property of their respective owners. Sensoror Technologies products are not intended for any application in which the failure of the Sensoror Technologies product could create a situation where personal injury or death may occur. Should Buyer purchase or use Sensoror Technologies products for any such unintended or unauthorized application, Buyer shall indemnify and hold Sensoror Technologies and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable legal fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Sensoror Technologies was negligent regarding the design or manufacture of the part.