

PRESSURE SENSOR DIE

0 to 200 kPa (0 to 29.0 psi)

Features

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



Description

The SW415-2 uncompensated piezoresistive pressure sensor die is bulk micromachined and designed for affordable and reliable low pressure measurements in a broad range of industrial applications and designs.

SW415-2 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 SW415-2 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.

SW415-2 is offered as bare die and wafer deliveries.

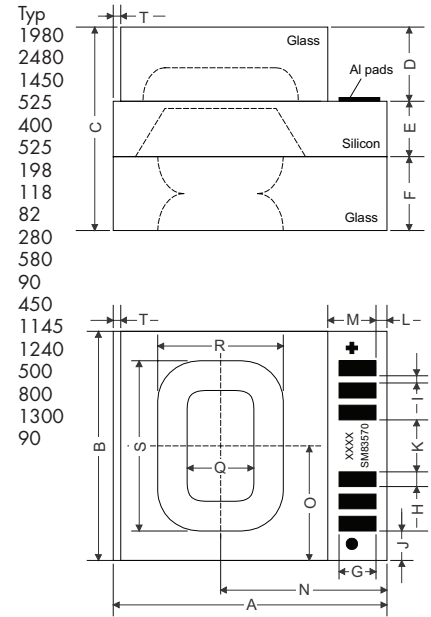
SW415-2
SW415-2W

GENERAL CONDITIONS

Parameter	Min	Typ	Max	Unit	Comments
Operating supply voltage		5.0		V	
Operating temperature	-40		125	°C	
Operating pressure	0		200	kPa	Absolute pressure
Overload pressure	600			kPa	
Breakdown voltage		14		V	At I=5.0µA
Leakage current		0.2		nA	At Vdd=4.0V

MECHANICAL DIMENSIONS (in µm)

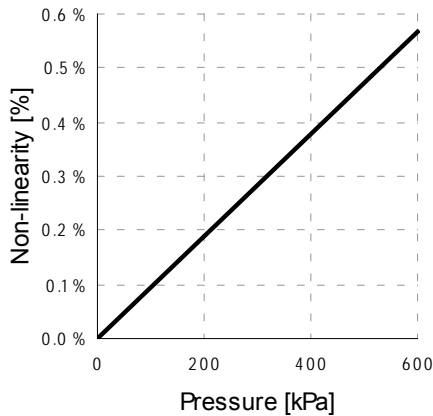
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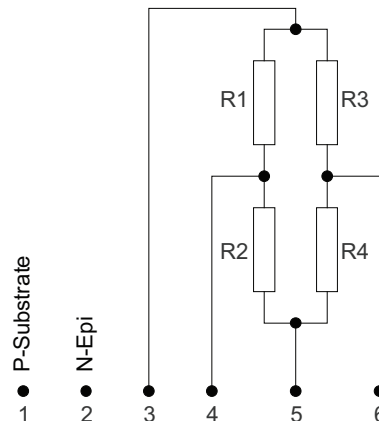
FUNCTIONAL CHARACTERISTICS (@25°C,5V)

Parameter	Typ	Unit
Bridge resistor		
Bridge resistance	12	kΩ
Temp.coeff. bridge resistor (1 st order)	1.5	10 ⁻³ /°C
Temp.coeff. bridge resistor (2 nd order)	8.2	10 ⁻⁶ /°C ²
Common mode voltage	0.5*Vdd	V
Sensitivity		
Sensitivity	128	µV/VkPa
Temp.coeff. sensitivity drift (1 st order)	-2.0	10 ⁻³ /°C
Non linearity	See separate chart	%FSO
Zero point		
Zero point	-5.1/7.2	mV/V
Temp.coeff. zero point drift (1st order)	±94	µV/V°C

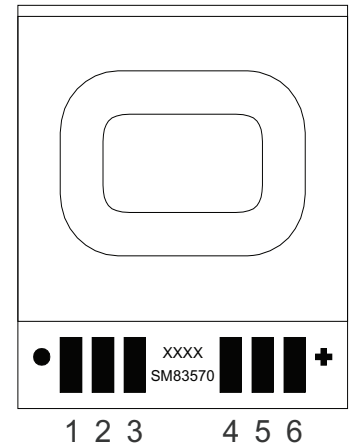
NON-LINEARITY



ELECTRICAL CIRCUIT DIAGRAM



ELECTRICAL CONTACTS



ORDERING INFORMATION

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

Model
SW415-2
SW415-2W

CONTACT INFORMATION

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