

Overview

The Standard Line STARe is a piezoresistive 1.8 mm silicon pressure sensor die line with pressure proportional output signal. The die has side layouts as well as round layouts with electrical shield. Our optimized designs and technologies allow high accuracy measurements of absolute, gauge or differential pressure for required applications. Key features of our STARe Technology (Sensor Technology for Advanced Resistors) are the high stability, low temperature hysteresis and extremely high overpressure. Customized solutions are also possible.

Applications

- Automotive applications
- Industrial controls
- Home appliances
- Medical instrumentations

Features

- Secondary passivation for advanced protection against external influences (e.g. humidity)
- Very compact size
- Cost efficient
- High sensitivity, reliability and stability
- For current and voltage supply
- Pressure ranges
0...100kPa to 0...3MPa

Note: The qualification of the packaged sensors is the responsibility of the customer, as the packaging will have an impact to the overall performance of the sensor.

Order no.



- 1 **Product code**
Standard Line STARe (with secondary passivation)
- 2 **Outside dimension**
K: 1.75 x 1.75 mm
- 3 **Wafer size**
6A: 6 inch wafer
- 4 **Pressure range [Pa]**
100k: 100kPa = 1 bar
03M0: 3MPa = 30bar
- 5 **Type (X)**
A: Absolute
G: Gauge (Glass)
- 6 **Thickness back plate**
YY: Back Plate
Thickness in 100µm

Common characteristics

| Type | Pressure range | Parameter | min. | typ. | max. | Unit |
|--------------------|----------------|--------------|------|------|------|----------|
| SL21K6A-100k-A/GXX | 100kPa | | 40 | 70 | 130 | |
| SL21K6A-250k-A/GXX | 250kPa | | | | | |
| SL21K6A-500k-A/GXX | 500kPa | Span voltage | 60 | 100 | 140 | mV at 5V |
| SL21K6A-01M0-A/GXX | 1.0MPa | | | | | |
| SL21K6A-03M0-A/GXX | 3.0MPa | | | | | |

Gauge types can also be used for differential measurements.

Certificate

ISO/TS 16949

Contact

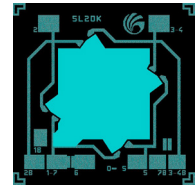
First Sensor AG
www.first-sensor.com

Electrical characteristics

(measured at 5V supply and 25°C, unless otherwise specified)

| Parameter | min. | typ. | max. | Unit |
|---|-------|--------|-------|-----------|
| Bridge resistance | 3,200 | 4,000 | 4,800 | Ω |
| Offset voltage | -35 | 0 | +35 | mV |
| Temperature coefficient of bridge resistance ¹ | +0.27 | +0.31 | +0.34 | % /K |
| Temperature coefficient of offset ¹ | -0.04 | 0.02 | +0.08 | %F.S.S./K |
| Temperature coefficient of span ¹ | -0.21 | -0.19 | -0.17 | |
| Temperature hysteresis ^{1A} | - | <0.01 | 0.4 | ±%F.S.S. |
| Pressure hysteresis | - | <0.001 | 0.1 | |
| Linearity error ^{2,3} | - | <0.30 | 0.50 | |

1) Measured from 25°C to 85°C · 1A) Measured from 25°C - 125°C
 2) End point straight line setting · 3) Pressure applied onto the front side of the die



Order no.

SL21 K6A - XXXX - XYY



- 1 **Product code**
Standard Line STARe (with secondary passivation)
- 2 **Outside dimension**
K: 1.75 x 1.75 mm
- 3 **Wafer size**
6A: 6 inch wafer
- 4 **Pressure range [Pa]**
100k: 100kPa = 1 bar
03M0: 3MPa = 30bar
- 5 **Type (X)**
A: Absolute
G: Gauge (Glass)
- 6 **Thickness back plate**
YY: Back Plate
Thickness in 100µm

Maximum ratings

| Type | Over pressure (100kPa) | | Burst pressure (100kPa) | |
|--------------------|------------------------|---------|-------------------------|---------|
| | FS min. | RS min. | FS min. | RS min. |
| SL21K6A-100k-A/GXX | 20 | 10 | >20 | >10 |
| SL21K6A-250k-A/GXX | 40 | 20 | >40 | >20 |
| SL21K6A-500k-A/GXX | 50 | 25 | >50 | >25 |
| SL21K6A-01M0-A/GXX | 60 | 30 | >60 | >30 |
| SL21K6A-03M0-A/GXX | 90 | 60 | >90 | >60 |

FS: Front side; RS: Rear side

| Parameter | Limit values | | | Unit |
|--|--------------|------|------|------|
| | min. | typ. | max. | |
| Operating temperature range (higher temperature on demand) | -40 | - | +150 | °C |
| Storage temperature range | -50 | - | | |
| Supply voltage | - | 5 | 12 | V |

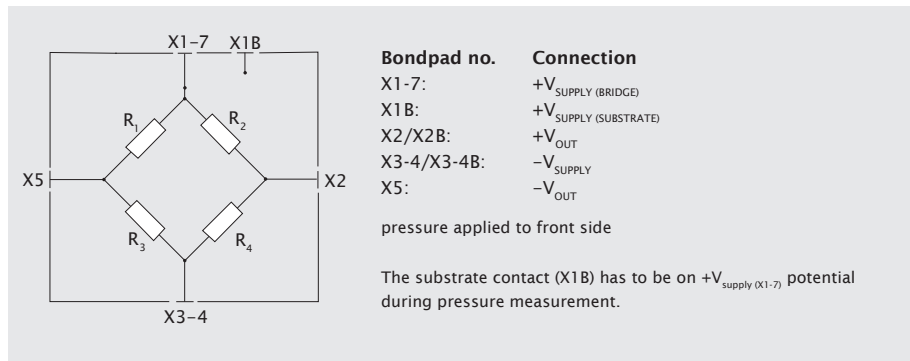
Certificate

ISO/TS 16949

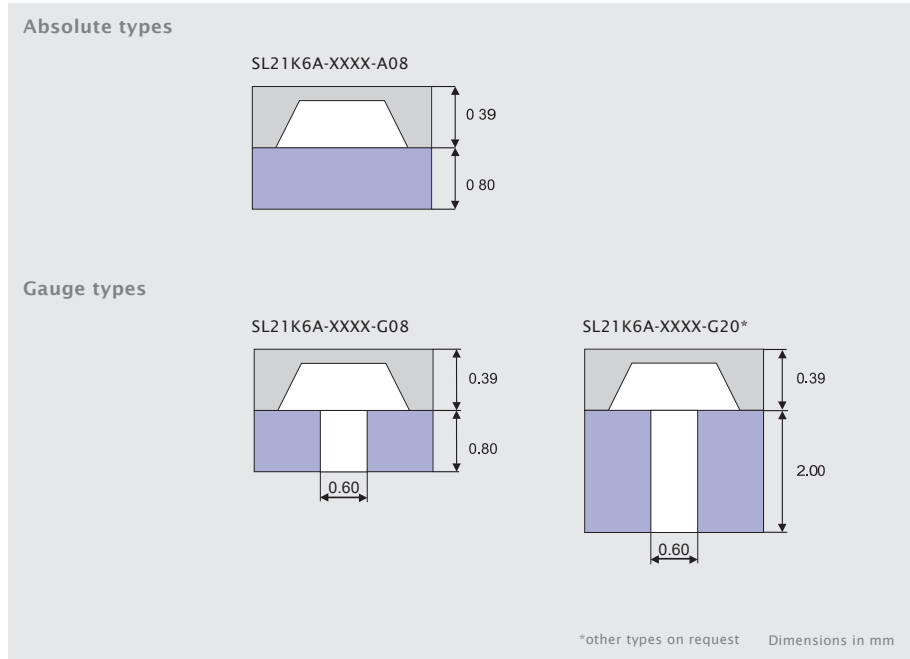
Contact

First Sensor AG
www.first-sensor.com

Bondpad configuration



Technical options



Order no.



- 1 **Product code**
Standard Line STARe
(with secondary passivation)
- 2 **Outside dimension**
K: 1.75 x 1.75 mm
- 3 **Wafer size**
6A: 6 inch wafer
- 4 **Pressure range [Pa]**
100k: 100kPa = 1 bar
03M0: 3MPa = 30bar
- 5 **Type (X)**
A: Absolute
G: Gauge (Glass)
- 6 **Thickness back plate**
YY: Back Plate
Thickness in 100µm

Certificate

ISO/TS 16949

Contact

First Sensor AG
www.first-sensor.com

Disclaimer

All informations are only for product description without any legal binding. For further improvement of technical details, it is subject to change.