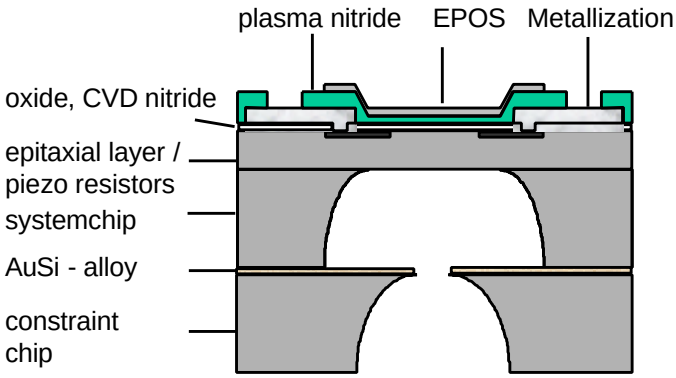
CHIPDATEN / DIE DATA

(Mechanisch-technische Kenndaten / mechanical-technical characteristic data)

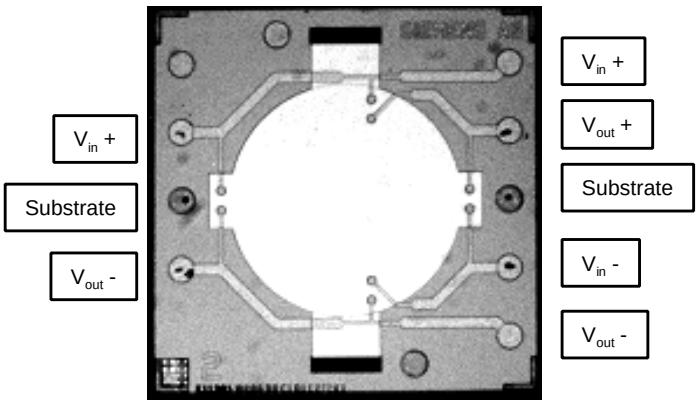
E113x R
Chips for relative 3x3mm Pressure Sensor

Diameter of Wafer	150mm / 6“
Die Size	3 mm x 3 mm
Metallization Frontside	Aluminum
Passivation	Oxide / CVD Nitride / Plasma Nitride / EPOS
Chip Backside	Silicon
Die Thickness	850 ± 100 µm
Dicing	Sawing
Pad Size in Diameter	200 µm
Pad Pitch	500 µm
Maximum Diameter of Rear Hole	1,2 mm (typ. 0,9 mm)

Sectional View:
(not to scale)



Front Side:

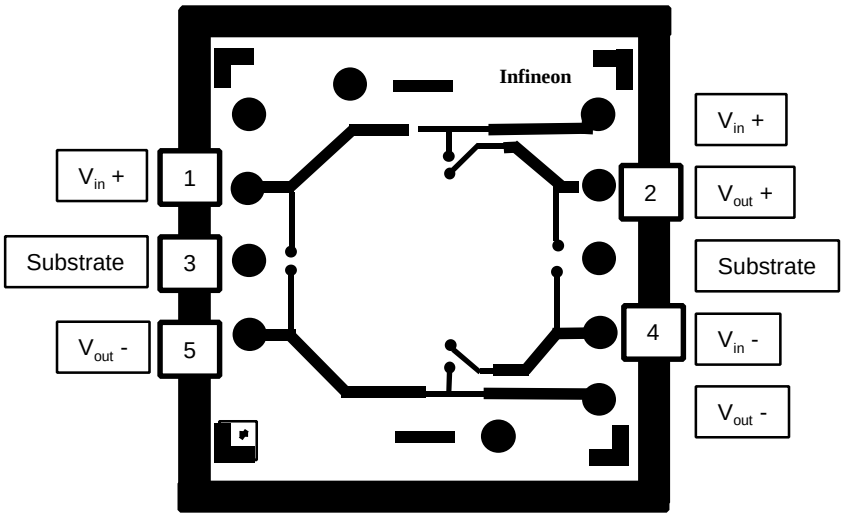


E113x R
Electrical Characteristics for 3x3mm Pressure Sensor Chips

Electrical Characteristics at T= 25°C

Parameter		Symbol	min	max	Unit
Bridge Resistance (1)		RB	4	8	kOhm
Output Voltage (2)		Vout			mV
	E1139R		-25	25	
Breakdown Voltage (3)		VBR	20	100	V
Leakage Current (4)		IR	0	20	nA

Testing Conditions
(1) Bridge Resistance is measured between Pad 1 and 4 with Vin = 5V
(2) Output Voltage is measured at relative pressure p= 0 kPa (E113xR) between Pad 2 (V_{out}+) and Pad 5 (V_{out}-) with V_{in}+ = 5V. V_{in}- is grounded.
(3) Breakdown Voltage: Pads 1,2,4,5 grounded. Using a constant current of 100µA between Pad 3 (plus) and ground (minus) the breakdown voltage is measured between Pad 3 and ground.
(4) Leakage Current: Pads 1,2,4,5 are short circuited. A reverse bias VR=20V is applied between Pad 3 (plus) and ground (minus). IR is measured between ground (minus) and Pads 1,2,4,5.



CHIPDATEN / DIE DATA

(Mechanisch-technische Kenndaten / mechanical-technical characteristic data)

E113x R
Typical Data of 3x3mm Pressure Sensor Chips

Typical Electrical Characteristics at T= 25°C

Chip	Pressure Range pN (kPa)	Sensitivity s (mV/V/kPa)	Full Scale Span p=pN, Vin = 5V Vfin (mV)	Linearity error FL (% / Vfin)
E1132R	60	0,4300	130	+- 0,3
E1133R	160	0,2000	160	+- 0,3
E1134R	400	0,1100	220	+-0,3
E1135R	1000	0,0520	260	+-0,3
E1136R	2500	0,0210	260	+-0,3

Parameter	Symbol	typ.	Unit
Offset Voltage (p= p0, Vin= 5V)	V0	+- 10	mV
pressure hysteresis (1)	PH	+- 0,1	% / K

(1) change of output voltage at atmospheric pressure after pressure cycle to P_N.

Typical Temperature Characteristics

Note that temperature coefficient and -hysteresis of Offset and Span are strongly dependent on the mounting of the sensor.

Parameter	Symbol	typ.	Unit
Temperature Coefficient of Span (1)	TC Vfin	-0,17	% / K
Temperature Coefficient of Offset (1)	TC V0		% / K
E1132...6 R		+- 0,02	
E1137...9 R		+- 0,01	
Temperature Coefficient of Bridge Resistance (2)	TC RB	+0,26	% / K
Termperature Hysteresis (3)	TH	+- 0,2	% / Vfin

(1) change in value of V-fin between 25°C and 125°C relative to Vfin(25°C)
(2) change in value of RB between 25°C and 125°C relative to RB(25°C)
(3) change in V0(25°C) or Vfin(25°C) after temperature cycle 25°C - 125°C - 25°C relative to Vfin(25°C)