Force sensor elements in thin film technology
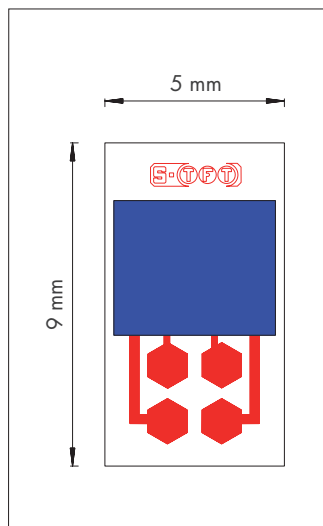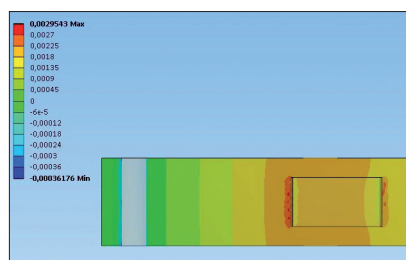## – for weld on

Series SGU

Features

· For dynamic and static measurements
· Thin film strain gauge direct sputtered on stainless steel
· Basic sensing element to be welded onto a strain beam
· High precision and low TC due to a Wheatstone bridge
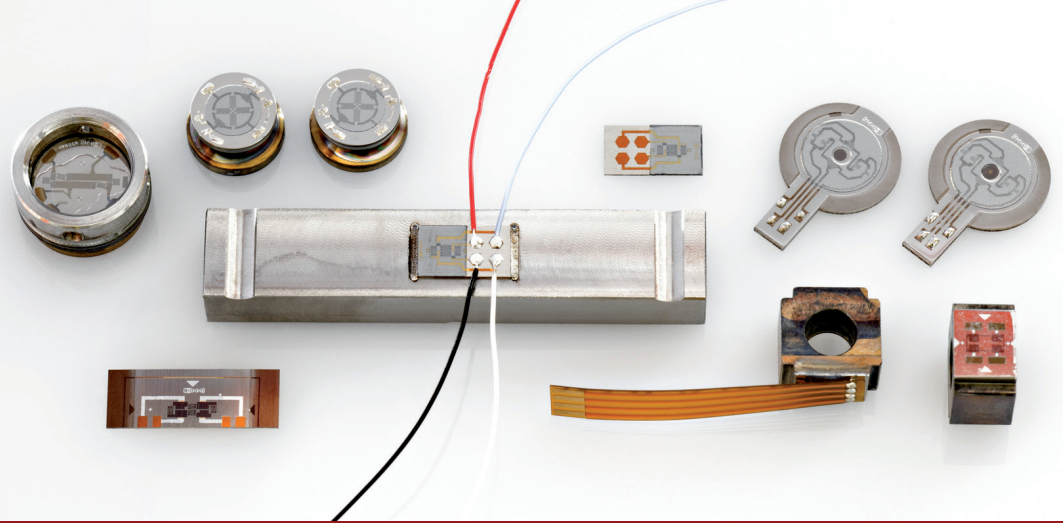· Small sensitivity on enviromental influences
· RoHS – compliant

Standard Design

Typical Dimensions

FEM Simulation

Technical Data

Feature	Unit	Value
Material	-	Stainless steel (17-4PH)
Diameter (outer)	mm	7
Type of sensor	-	Full-bridge
Nominal span @ 0,1% stretching [1]	mV/V	1.8
Range of span	mV/V	1.3 … 2.1
TC span [2]	% FS/K	0.01 ... 0.03
Zero signal	mV/V	< ± 0.2
TC zero [2]	% FS/K	< ± 0.035
Bridge resistance	kΩ	4 ... 7
TC of bridge resistance	ppm/K	< ± 25
Isolating resistance (@ 100 VDC)	Ω	$> 10^9$
Isolating voltage	VAC	125 / 500
Long term stability (zero signal): 72 h / 125 °C 1,000 h / 125 °C 100 h / 85 °C, 85 % r.H., 5 VDC	% FS	< ± 0.15 < ± 0.3 < ± 0.6
Operating temperature range	°C	- 40 ... +125
Max. supply voltage	VDC	10

The specified data only apply to the sensor element, i.e. without strain beam.
1) The nominal span applies to a deformation of the sensor element of ± 0,1%.
2) Temperature according to the TC of Young's modules matching between sensor element and strain beam.

Force and strain sensors for special applications

In close cooperation with our clients, we develop and manufacture thin film structures for the measurement of forces and strains for cases when commercially available sensors cannot be applied or are limited in use, due to e.g. geometric restrictions.

Please do not hesitate to contact us – we always look forward to new challenges!

Ordering Information

· Dimensions
· Bridge resistance
· TC compensation of span (Yes/No)
. TC compensation of zero signal (Yes/No)
· Temperature sensor (Yes/No)
· Special requirements
· Quantity
· Delivery form

Sales and Development

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