



SFS01 (Silicon Flow Sensor)



Thermal mass flow sensor



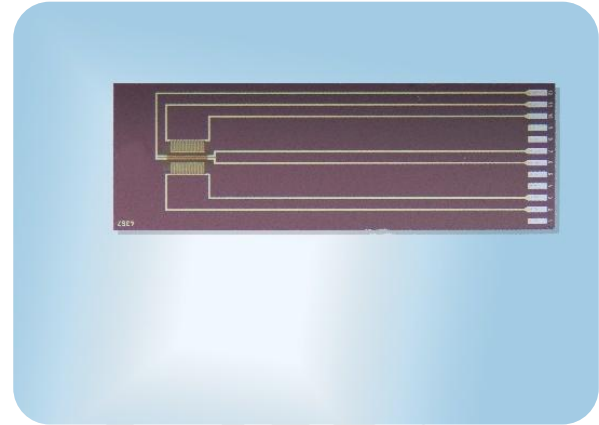
Optimal for fast measuring of gas flow and direction



Benefits & characteristics

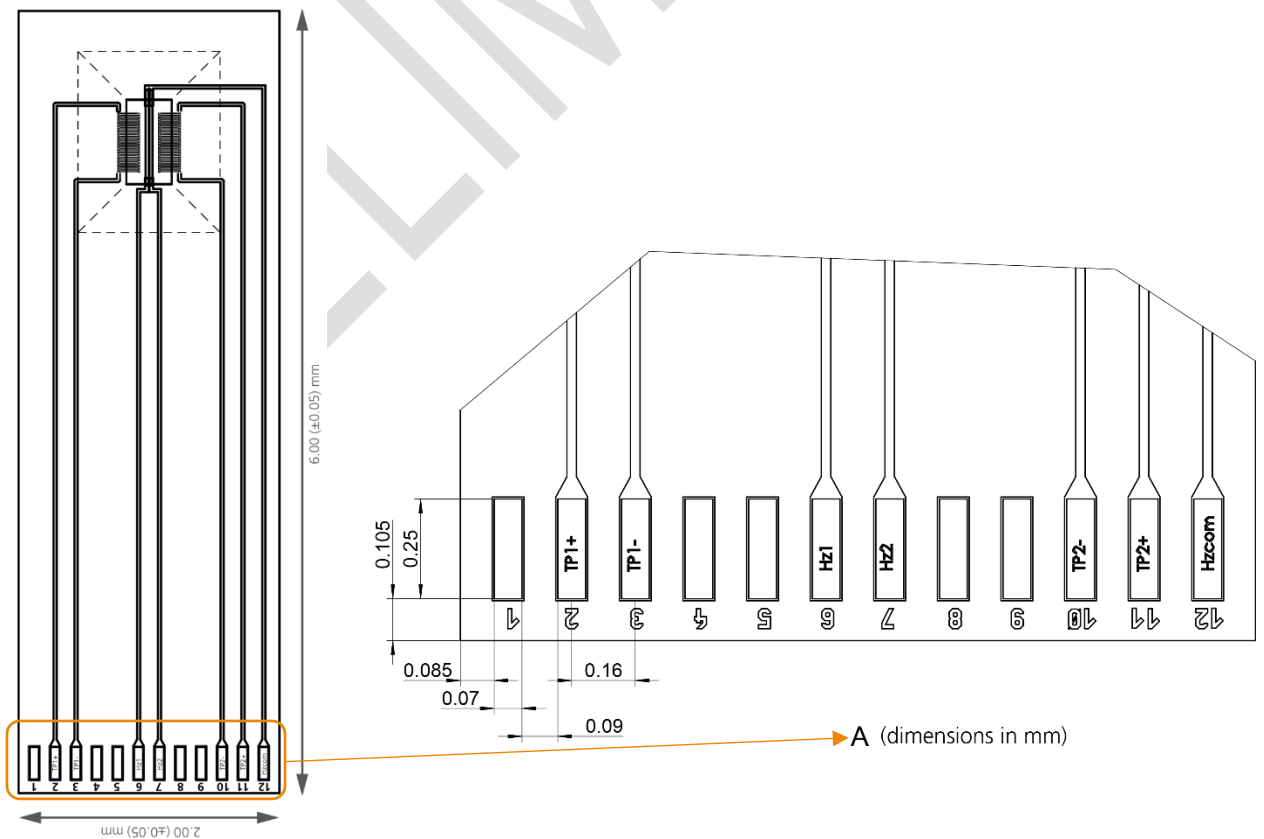


- Measurement from 0.0 to 3.5 m/s (gas)
- Detection of flow direction
- Very fast response time
- Very low power requirement
- Easy System integration



Applications

- Automation technology
- Process and regulation technology
- Medical technology and biotechnology
- Air conditioning
- Battery-operated applications in portable devices
- Gas analyzers
- Gas supply and dosing systems
- Gas mixing valves
- Environmental monitoring and analytical equipment





Technical sensor data

Measurements (L x B x H in mm):	6.00 (± 0.05) x 2.00 (± 0.02) x 0.525 (± 0.01)
Temperature range:	0 °C to +80 °C
Storage temperature:	-20 °C to +80 °C
Compressive load:	up to 1 bar (one-sided on membrane for a duration of 10 years)



Electrical sensor data

Connection:	Bond pads (recommended bonding process: wedge-wedge with aluminum wires)
Heater resistance:	1'000 $\Omega \pm 20 \%$
Thermopile resistance:	< 40 k Ω
Thermopile sensitivity:	< 9 %
Thermopile voltage:	Typically 5.5 mV/K
Heater output:	Typically 3-10 mW (air), maximum tolerance 20mW



Flow performance

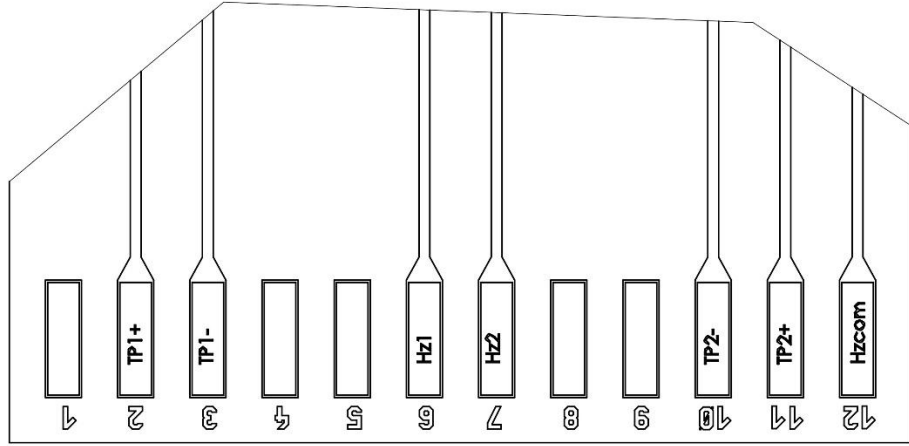
Medium:	Non-aggressive gases (5-95 % rel. humidity, non-condensating)
Measurement range:	0.0 to 3.5 m/s
Sensitivity:	0.002 m/s ¹
Response time t_{63} :	5 ms
Accuracy:	0.2 % F.S. ²
Temperature sensitivity (uncomp.):	< 0.18 %/K F.S. ¹
Sensitivity to positioning:	< 0.1 % F.S.
Humidity sensitivity:	< 4.0 % F.S.

¹ Dependent on electronics

² Dependent on calibration



Bondpad configuration



1	2	3	4	5	6
n.c.	TP1+ Thermopile 1 (hot end)	TP1- Thermopile 1 (cold end)	n.c.	n.c.	Hz1 Left heater (heater series connection supply voltage)
6	8	9	10	11	12
H z2 Right heater (heater series connection supply voltage)	n.c.	n.c.	TP2- Thermopile 2 (cold end)	TP2+ Thermopile 2 (hot end)	Hzcom Heater at parallel circuit/mutual connection

PRELIMINARY



Order information



Product name	Order code	Description
SFS01	105050	Silicon Flow Sensor
SFS01 EvaKit	105059	Evaluation kit for SFS01 Silicon flow sensor



Additional Documents



Document name:

Application Note SFS01	AHSFS01
Data sheet SFS01	DFSFS01_E
Data sheet SFS01 EvaKit	DFSFS01_EvaKit_E



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