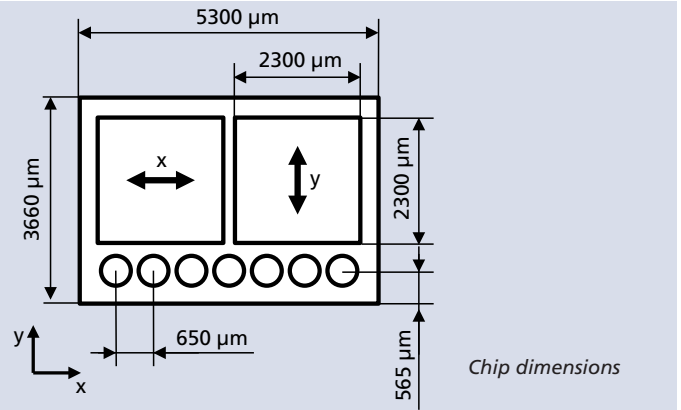
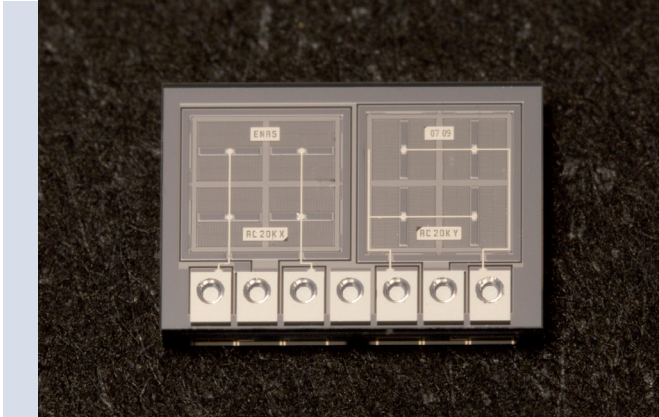


ACCELERATION SENSOR ELEMENT AC20kHz



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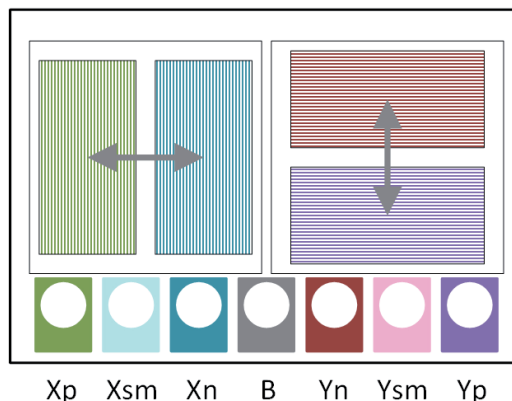
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The AC20kHz is a micromechanical sensor element for the measurement of linear accelerations in two directions. The MEMS sensor element consists of two mechanical structures for detection of acceleration in x- and y-directions. The working principle is based on a capacitance change. The MEMS itself is a Glass-Si-Glass stack with a height of approx. 750 μm.

Parameters

- Highly doped silicon (0.01 ... 0.05 Ωcm)
- Sensitive to linear accelerations in x and y directions
- Eigenfrequency 21 kHz
- Damping ratio < 1
- Base capacitance per electrode ≈ 25 pF
- Capacitive sensitivity per electrode ≈ 5 fF/g
- Open-loop input range ± 350 g



Connection scheme:

- Xp Electrode in positive x-direction
- Xsm Connection for seismic mass of x-sensing element
- Xn Electrode in negative x-direction
- B Bulk connection
- Yn Electrode in positive y-direction
- Ysm Connection for seismic mass of y-sensing element
- Yp Electrode in negative y-direction

Photo acknowledgments: Fraunhofer ENAS

All information contained in this datasheet is preliminary and subject to change. Further-

more, the described systems, materials and processes are not commercial products.