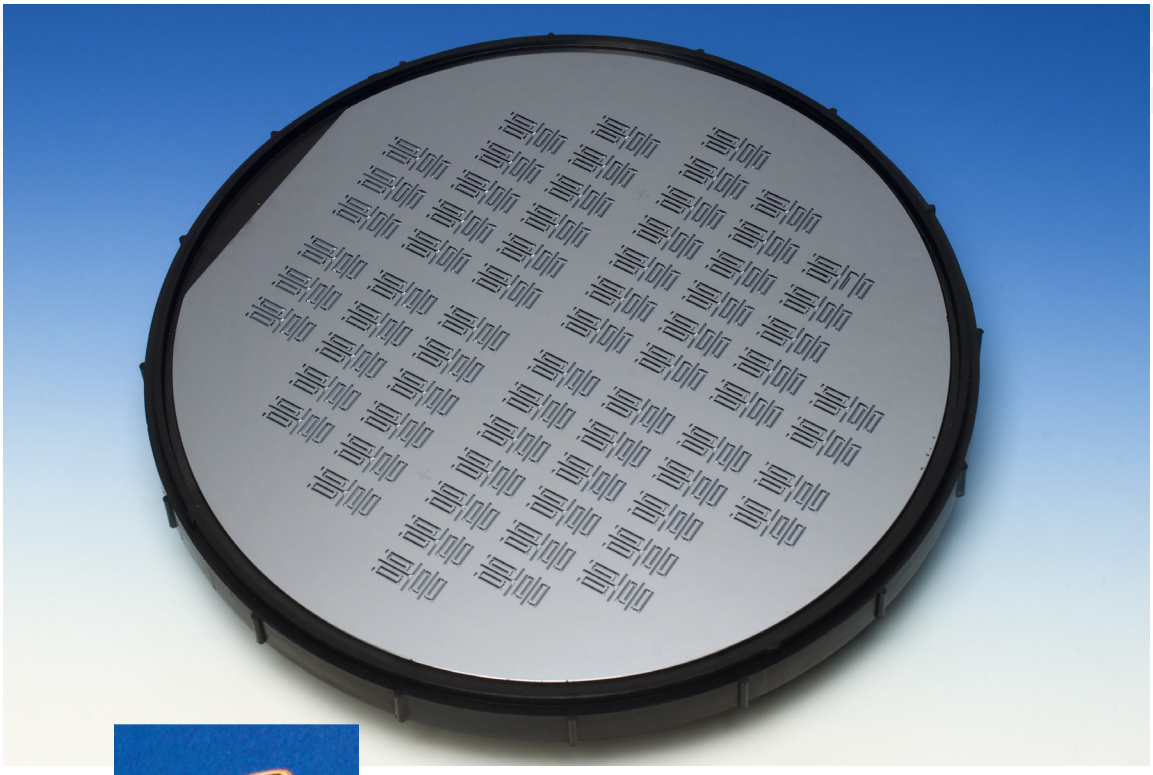
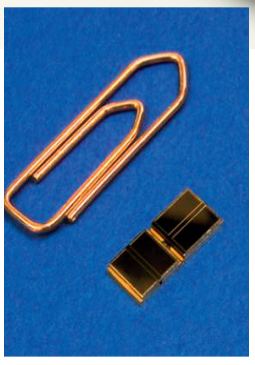
IMEGO
Solutions beyond sensors

IQA10

Triaxial accelerometer





The monolithic design of the IQA10 four-sensor element enables minimizing the component size without affecting its high performance. Its small size is one of IQA10's decisive strengths.

Quad Slanted Beam

IQA10 is a micromachined three-axis accelerometer. It uses Imego's patented Quad Slanted Beam principle to obtain symmetric sensitivity for all three axes with near-zero cross coupling. Its compact single-chip design completely avoids any risk for axis misalignment and allows for a cost-effective and quality-assured fabrication. The bulk micromachined concept enables measurements at extremely low noise levels allowing these MEMS sensors to be used in demanding geophone applications. The IQA10 can be designed to operate for different ranges and bandwidths, including DC inclination sensing.

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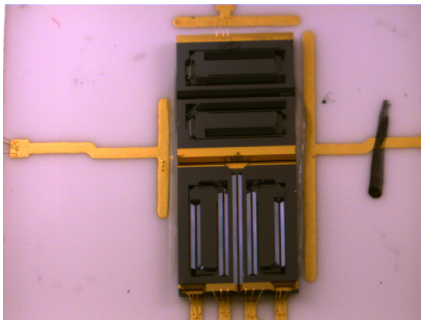
Performance parameters typical values

Parameter	Design target
Sensor noise (Magnitude spectral density)	< 30 ng$\sqrt{Hz}$
Range	e.g. ±2g, ±10g (*)
Bandwidth	DC-2 kHz (*)
Output data rate	4 kHz (*)
Power consumption	< 50 mW
Shock resistance	1500 g
Cross-axis Isolation	> 80 dB
Chip size	6x14x1.3 mm (*)
Package size, including electronics	10x22x4 mm (*)
Temperature range	-40°C – +85°C
Humidity range	0 -100%
External pressure range	Package dependent, e.g. 0.1–30 bar

(*): Can be custom designed

IQA10's design lends itself well to customer-specific variation. Parameters such as range, bandwidth, chip size and package size can be custom designed.



For further information please contact:
Sjoerd Haasl
sjoerd.haasl@imego.com
Tel. +46 (0)70 915 1823