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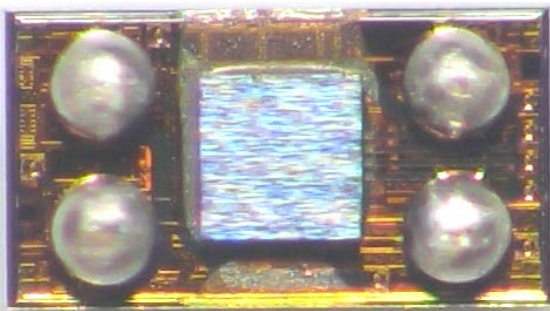
SYSTEM

POWER

SiTime Corporation

SiT1552 MEMS Oscillator

*The smallest MEMS oscillator on the market
assembled in an innovative Wafer Level Chip Size Package*



SiTime presents its first MEMS oscillator assembled in Wafer Level Chip Scale package to get the word smallest (1.2mm²) ultra-low power oscillator for consumer and industrial applications.

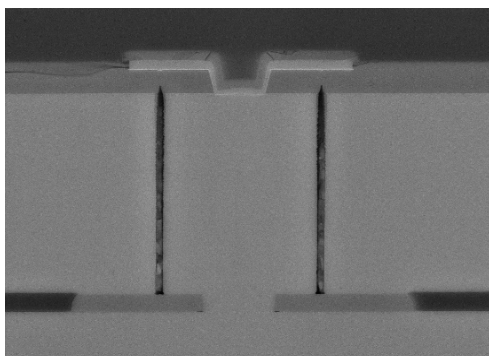
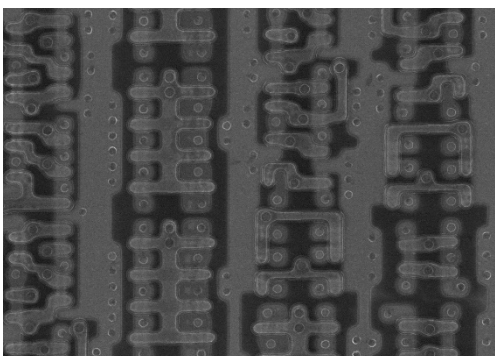
SiTime is taking fully benefit of all semiconductor manufacturing processes and infrastructures in order to develop a really compact device and compete with quartz solutions for the same application.

This full **Reverse Costing analysis** has been conducted to provide insight on technology data, manufacturing cost and selling price of the SiTime SiT1552 low-power 32kHz Temperature Compensated Crystal Oscillator.

The report includes comparisons with SiT8002 Oscillator and with the Dicera DSC8002 and Silicon Lab Si504 Oscillators.

SiTime SiT1552 uses an innovative 1.55x0.85 mm Wafer Level Chip Scale Packaging containing two stacked dies: a MEMS oscillator and an ASIC for signal conditioning. The MEMS oscillator is flipped and connected to the ASIC by solder bumps. The component is protected by a polymeric coating and electrically connected by solder balls. For this new generation oscillator, SiTime has integrated many new technologies in order to be competitive to quartz devices.

The MEMS oscillator is manufactured on SOI wafer using MEMSFirst™ and EpiSeal™ processes licensed by Robert Bosch GmbH.



Title: SiTime SiT1552 MEMS oscillator

Pages: 97

Date: July 2015

Format: pdf + xls

PRICE:

Full report: EUR 3,290

COMPLETE TEARDOWN WITH:

- Detailed Photos
- Precise Measurements
- Material Analysis
- Manufacturing Process Flow
- Packaging process Flow
- Supply Chain Evaluation
- Manufacturing Cost Analysis
- Selling Price Estimation
- Comparison SiT1552 vs SiT8002
- Comparison Dicera's vs SiLab's vs SiTime's MEMS Oscillator



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Elena is in charge of costing analyses for MEMS, ICs and Power Semiconductors. She has a deep knowledge of Electronics R&D and Manufacturing environment. She holds a Master in Nanotechnologies and a PhD in Power Electronics.



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Yvon
Le Goff

Yvon is the laboratory manager. He has deep knowledge in chemical & physical technical analyses. He previously worked for 25 years in Atmel Nantes Laboratory and performs MEMS analyses for more than 8 years.

ANALYSIS PERFORMED WITH OUR COSTING TOOLS MEMSCosim+ and IC PRICE+

	Process-Based Costing Tools	Parametric Costing Tools
Integrated Circuits		IC Price+
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Advanced Packaging	3D-Package CoSim+	
Electronic Boards Substrates		PCB Price+
Electronic Systems	SYScost+	
Displays		Display Price+

MEMS Cosim+

Cost simulation tool to evaluate the cost of any MEMS process or device:

From single chip to complex structures.

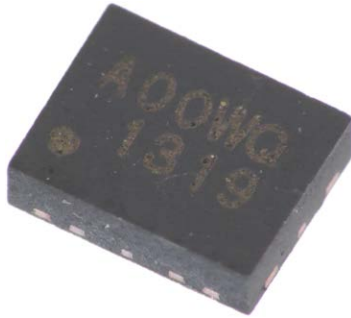
MEMS CoSim+ is a process-based costing tool used to evaluate the manufacturing cost per wafer using your own inputs or using the pre-defined parameters included in the tool.

It is possible to enter any MEMS process flow.

RELATED REPORTS

Silicon Labs Si504 CMEMS Oscillator

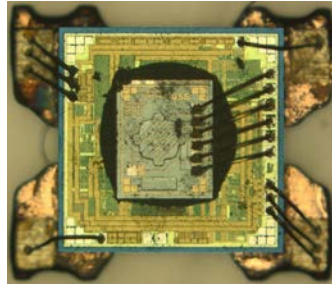
First fully integrated, monolithic CMOS+MEMS oscillator device Innovative Poly-SiGe Surface-Micromachining Process.



Pages: 109
Date: January 2014
Full report: EUR 2,990*

SiTime SiT8002 MEMS Oscillator

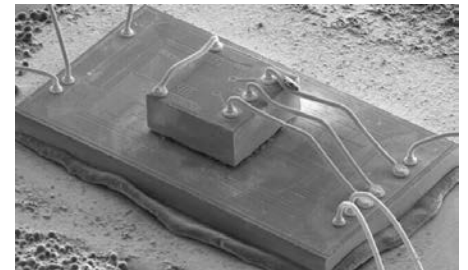
Completely quartz-free, it uses a standard 2.5x2.0mm 4-land MLF-type package containing 2 stacked dies: a MEMS resonator and an ASIC for signal conditioning.



Pages: 74
Date: January 2010
Full report: EUR 2,990*

Discera DSC8002 MEMS Oscillator

Thanks to the TSV technology of Silex Microsystems, this new generation of Discera wafer-level packaged MEMS resonator achieves an area of ~0.3mm² on the market.



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Date: December 2010
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