Thick-SOI' 08

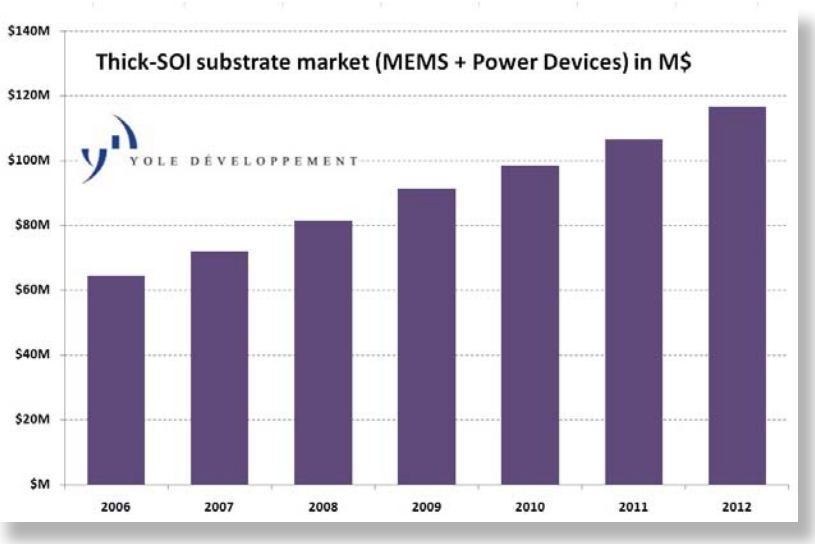
Thick-SOI Applications, Markets & Players 2006-2012 Report

In 2012, MEMS applications will account for 46% of the demand for thick-SOI wafers, representing a global market of over $115M

Consulting company Yole Développement releases in May 2008 its report dedicated to thick-SOI substrates.The term thick-SOI refers to a semiconductor substrate with an active, single-crystal silicon layer whose thickness exceeds 1µm. It lies on a buried oxide which is set on top of a silicon wafer carrier. This structure is widely used in MEMS and in Power Device electronics.

In 2007, thick-SOI substrates accounted for a $72M market, representing approximately 380,000 6" (equiv.) wafer units. MEMS currently accounts for 38% of this market, and this figure is expected to exceed 45% by 2012. The other outlet for these products is the power semiconductor industry.

MEMS business is boosting thick-SOI demand thanks to the market dynamism of products such as accelerometers or gyroscopes, which are now widely used in numerous consumer products (cell-phones, game-pads, cameras…). MEMS-related activities are expected to drive more than 300,000 6" thick-SOIsubstrates in 2012.



Power electronics was the first sector with a need for thick-SOI: this technology was developed to design and manufacture some of the plasma TV (PDP) drivers ICs. As a result, the very high market penetration of plasma technology in large flat panel displays led to very rapid ramp-up in this segment. In 2006, about 200,000 6"-thick SOI wafers were processed. This being said, competition from LCD technology is currently reversing this trend: whereas the CAGR of thick-SOI PDP-related business was routinely above 25% in the past years, annual growth is forecasted to be only 6% after 2008.

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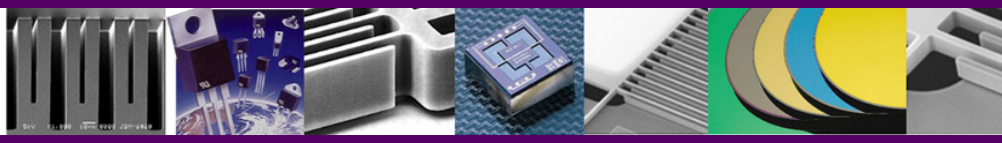
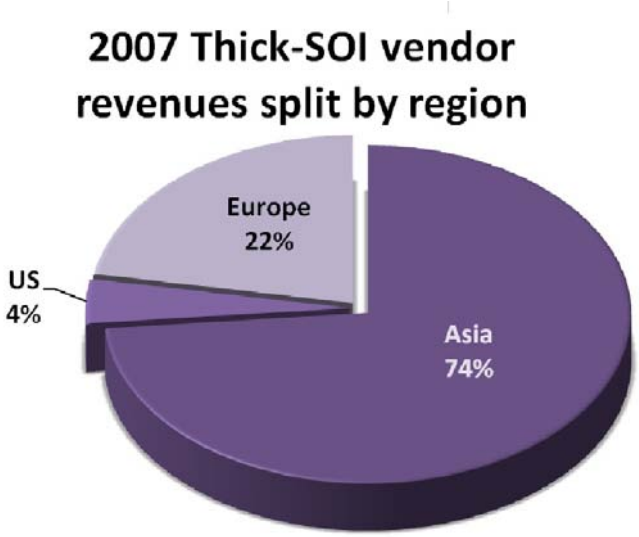


The leading company in the thick-SOI wafer business is still SEH (J), followed by SUMCO (J). Asia supplies about 75% of all thick-SOI wafers and is consuming in between 40% to 50% of the worldwide wafer volume in MEMS and Power Electronics.

Due to its involvement in both sectors, namely MEMS and Power electronics, DENSO (J) still leads the pack of the TOP 25 thick-SOI users, with STM, NEC and Fuji following fairly closely behind. The largest pure-MEMS player is Silex Microsystems, the Swedish company.

Bio

Philippe ROUSSEL holds a Ph-D in Integrated Electronics Systems from the National Institute of Applied Sciences (INSA) in LYON. He joined Yole Développement in 1998 and is leading the Compound Semiconductors techno-economical market



IN 2011, THE $100M MARK WILL BE REACHED FOR SUBSTRATES, AND 10% CAGR IS FORECASTED UNTIL 2012.

This report provides a unique description on the thick-SOI material business in a single package. It highlights the main metrics and the key market trends that will help material and equipment vendors to position their R&D efforts and anticipate the changes and forecasted evolution of their business.

Companies mentioned in the report

APM, ABB, Agiltron, Analog Devices, APM, Atotech, Auxitrol, Colibrys, Covalent Materials, Dalsa Semiconductor, Delphy, Denso, E2V, FST, Fraunhofer IZM, Freescale Sendai, Fuji Electric, GE sensing, Grunfos, Hitachi, Honeywell, IceMOS, IMT, Intersema (Semefab), Isonics Semiconductor, Kearfott, Komatsu, Kulite, LG Siltron, Matsushita, MEMS Engineering, Micralyne, Mitsubishi, Murata, National Semiconductor, NEC, NXP, OKI Electric, Okmetic, Olivetti Ijet, Pirelli, Pixtronix, Presens, QinetiQ, SEH: Shin Etsu Hendotai, SiGen, Siimpel, Silex Microsystems, Simgui, SMI (Elmos), SOITEC-TRACIT, STM, SUMCO, Teledyne Scientific & Imaging LLC, Texas Instrument, THALES Avionic, TMT, Tokyo Electron, Toshiba, Tronic's, TSMC, Ultrasil Corporation, Virginia SC, VTI, Wafer World, X'FAB...

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