



EV GROUP BRINGS REVOLUTIONARY LAYER TRANSFER TECHNOLOGY TO HIGH-VOLUME MANUFACTURING WITH EVG®850 NANOCLEAVE™ SYSTEM – December 14, 2023



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HIGH PERFORMANCE JUNCTIONLESS FDSOI SIGE CHANNEL P-FINFET WITH HIGH ION/IOFF RATIO AND EXCELLENT SS

This paper presents a novel FDSOI FinFETs with SiGe channel/Si cap layer (35 nm/5 nm) formed on SOI wafers with 20 nm Si body. Electrical characterization result shows that JL FDSOI FinFETs with SiGe channel exhibited low subthreshold slope (SS) of 86 mV/decade and record high ON-OFF current ratio ($I_{ON}/I_{OFF} = 2 \times 10^6$) at $V_D = -0.5V$, respectively.

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TOTAL IONIZING DOSE AND SINGLE EVENT EFFECT RESPONSE OF 22 NM ULTRA-THIN BODY AND BURIED OXIDE FULLY DEPLETED SILICON-ON-INSULATOR TECHNOLOGY

In this paper, the test chip including transistors and SRAM is proposed and fabricated by an advanced 22 nm UTBB FD-SOI technology. Experimental results of Co-60 irradiation and heavy ion experiments are presented.

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WEEBIT NANO RECEIVES WAFERS MANUFACTURED IN GLOBALFOUNDRIES' 22FDX® PROCESS

Weebit Nano has received the first wafers integrating its embedded Resistive Random-Access Memory manufactured in GlobalFoundries' 22FDX® platform. Initial tests of the wafers in this advanced 22nm FD-SOI are showing positive results on the array.

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EV GROUP BRINGS REVOLUTIONARY LAYER TRANSFER TECHNOLOGY TO HIGH-VOLUME MANUFACTURING WITH EVG®850 NANOCLEAVE™ SYSTEM

The EVG850 NanoCleave is based on the same platform as EVG's industry-leading EVG850 series of automated temporary bonding/debonding and silicon-on-insulator (SOI) bonding systems, with a compact design and HVM-proven wafer handling system.

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SOI ECOSYSTEM NEWS

ROHM AND TOSHIBA AGREE TO COLLABORATE IN MANUFACTURING POWER DEVICES

It is noted that ROHM and Toshiba Electronic Devices & Storage will respectively make intensive investments in silicon carbide (SiC) and silicon (Si) power devices, effectively enhance their supply capabilities, and complementally utilize other party's production capacity.

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APPLIED MATERIALS AND CEA-LETI UNVEIL JOINT LAB FOR RAPIDLY GROWING SPECIALTY CHIP MARKETS

The joint lab aims to accelerate device innovations for Applied's customers serving ICAPS markets (IoT, Communications, Automotive, Power and Sensors). Technology applications in those fields include photonics, image sensors, RF communications components, power devices and heterogeneous integration.

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THERMAL MODELING OF HYBRID THREE-DIMENSIONAL INTEGRATED, RING-BASED SILICON PHOTONIC-ELECTRONIC TRANSCEIVERS

The research team from KU Leuven and imec in Belgium measured the heater efficiency of the ring modulators experimentally before and after flip-chip bonding of the EIC on the PIC. A relative loss of -43.3% in efficiency was found, which is a significant impact.

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INTEGRATED MICROWAVE PHOTONIC NOTCH FILTER USING A HETEROGENEOUSLY INTEGRATED BRILLOUIN AND ACTIVE-SILICON PHOTONIC CIRCUIT

Together with process design kits (PDKs) for Tower radio frequency (RF) technologies for circuit and physical designs, the new electro-thermal simulation enables integrated circuit designers to achieve first pass success, said in the press release.

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SEMI BLOG

SEMI NEWS HIGHLIGHT

CHIPS IN CARS, CHINA'S SEMICONDUCTOR SURGE, MUSSEL-INSPIRED SOLUTION FOR RARE EARTH ELEMENTS, FROM EARTH TO MOON AND EVEREST IN PENNIES

How many chips are in a modern car? According to industry estimates, the average modern car sports between 1,400 and 1,500 semiconductors. Some cars boast as many as 3,000 chips. As SEMI President and CEO Ajit Manocha has noted, "automobiles have become semiconductors on wheels." Here are more fun facts from the SEMI Foundation that help illustrate the amazing world of microelectronics and the central role of chips in our lives:

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SEMI LAUNCHES LEADERSHIP ACCELERATOR TO CULTIVATE FUTURE-READY MICROELECTRONICS INDUSTRY LEADERS

Developed in a collaboration between SEMI Europe and Mercuri Urval, the SEMI Leadership Accelerator provides science-based, ISO-certified programs, empowering senior leaders, executives, and board members to navigate global challenges, drive business transformation, and achieve sustained growth in the semiconductor sector. This initiative will support semiconductor supply chain organizations in evaluating high-potential employees, offering personalized leadership coaching, and delivering tailored training for individual and team development.

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