



SOI & ADVANCED SUBSTRATES NEWS

ACCELERATING INDUSTRY GROWTH | Bi-Weekly Newsletter

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UNIVERSITYWAFER ANNOUNCES NEW SUPPLY SILICON-ON-INSULATOR SUBSTRATES

According to the company, researchers can now buy as few as one thin device layer silicon-on-insulator (SOI) wafer, or even diced pieces, ensuring that even researchers with limited budgets can continue their project with high-quality SOI at a low price.

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UMC INTRODUCES INDUSTRY'S FIRST 3D IC SOLUTION FOR RFSOI

Available on UMC's 55nm RFSOI platform, the stacked silicon technology reduces die size by more than 45% without any degradation of radio frequency performance, enabling customers to efficiently integrate more RF components to address the greater bandwidth requirements of 5G.

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SIGNAL HOUND INTRODUCES THE RFS44 4-PORT ANTENNA SWITCH

Signal Hound announced the addition of the RFS44 to its expanding product line. The RFS44 is a single pole four throw (SP4T) absorptive solid-state switch. Using silicon-on-insulator (SOI) technology, the RFS44 provides RF switching across four ports at up to 44 GHz.

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HOPPING OF THE CENTER-OF-MASS OF SINGLE G CENTERS IN SILICON-ON-INSULATOR

The displacement of the center-of-mass of the G center in silicon is investigated. It is shown that single G defects in silicon-on-insulator (SOI) exhibit a multipolar emission and zero-phonon line fine structures with splittings up to ~1 meV, both indicating a motion of the defect central atom over time.

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SOI ECOSYSTEM NEWS

ROHM GROUP COMPANY SICRYSTAL AND STMICROELECTRONICS EXPAND SILICON CARBIDE WAFER SUPPLY AGREEMENT

According to the announcement, the new multi-year agreement governs the supply of larger volumes of silicon carbide (SiC) substrate wafers manufactured in Nuremberg, Germany, for a minimum expected value of \$230 million.

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ROGUE VALLEY MICRODEVICES UNVEILS 300MM MEMS CAPABILITY AT ITS UPCOMING PALM BAY, FLORIDA FACILITY

The company is the first pure-play MEMS foundry to announce 300mm capability for its customers, many of whom are innovators looking to transition from lab to fab with custom development requirements.

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ETRI DEVELOPS 3KV-CLASS GALLIUM OXIDE EPILAYER AND DEVICE TECHNOLOGIES

Electronics and Telecommunications Research Institute (ETRI) of Korea and its research team have successfully developed core material and device process technologies of gallium oxide (Ga2O3) power semiconductors, called as the next-generation power semiconductors.

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BROADBAND SILICON NITRIDE INTEGRATED POLARIZATION ROTATORS AT 780 NM

This work demonstrates silicon nitride (SiN) polarization rotators operating from λ =700-1000 nm (the I/Z-band) that take advantage of optical coupling between two waveguiding layers in a standard foundry process. The polarization rotator is designed for the AIM Photonics SiN-Only Passive PIC platform.

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COMPOUND SEMICONDUCTOR

INFINEON TO SUPPLY ADVANCED POWER CHIPS FOR XIAOMI EVS

Infineon announced that it will provide Xiaomi's electric cars with its silicon carbide (SiC) chips and modules, as well as a wide range of key microcontroller chips. The global race for SiC chips is heating up as the accelerating adoption of EVs and green energy drive demand.

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UNIVERSITY OF ARKANSAS TOPS OUT MULTI-USER SILICON CARBIDE RESEARCH AND FABRICATION FACILITY

The facility will enable the federal government – via national laboratories – businesses of all sizes and other universities to prototype with silicon carbide, a capability that does not presently exist elsewhere in the United States.

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ON-CHIP BROADBAND, COMPACT TM MODE MACH-ZEHNDER OPTICAL ISOLATOR BASED ON INP-ON-INSULATOR PLATFORMS

This study proposed a broadband, compact TM mode Mach-Zehnder optical isolator based on InP-on-insulator platforms. Its integration into the InP-on-insulator platform offers an innovative approach to achieving the integration of both active and passive components.

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EPITAXIAL GROWTH OF GAN FILMS ON CHEMICAL-VAPOR-DEPOSITED 2D MOS2 LAYERS BY PLASMA-ASSISTED MOLECULAR BEAM EPITAXY

The van der Waals epitaxy of wafer-scale GaN on 2D MoS2 and the integration of GaN/MoS2 heterostructures were investigated in this report. GaN films have been successfully grown on 2D MoS2 layers using three different Ga fluxes via a plasma-assisted molecular beam epitaxy (PA-MBE) system.

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SEMI BLOG

CONNECTING THE MICROELECTRONICS INDUSTRY WITH EXCEPTIONAL TALENT – INSIGHTS FROM SWANSEA UNIVERSITY

To help meet growing chip demand, more large chip manufacturers are building new fabs even as the semiconductor industry continues to struggle to attract and retain talent. SEMI spoke with Prof. Owen J. Guy, Head of Chemistry and Education Lead at the Centre for Integrative Semiconductor Materials (CISM) at Swansea University, about the challenge of onboarding talent within the microelectronics industry and the importance of the SEMI Talent Forum ahead of the May 1 event at the Great Hall on Swansea University Bay Campus in Swansea, UK.

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SEMI NEWS HIGHLIGHT

WORLDWIDE SILICON WAFER SHIPMENTS DIP 5% IN Q1 2024, SEMI REPORTS

Worldwide silicon wafer shipments decreased 5.4% quarter-over-quarter to 2,834 million square inches in the first quarter of 2024, a 13.2% drop from the 3,265 million square inches recorded during the same quarter last year, the SEMI Silicon Manufacturers Group (SMG) reported in its quarterly analysis of the silicon wafer industry.

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