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HIGHLIGHT NEWS

RF Micro Devices(R) Introduces First Silicon Switches for 3G Smartphones

RFMD RF Micro

Devices, a global leader in the design and manufacture of high-performance radio frequency components and compound semiconductor technologies, announced that the Company has successfully qualified and released its first high power RF CMOS switch using high-resistivity silicon substrates sourced at a leading silicon foundry. RFMD(R) is leveraging this new process technology, as well as patent-pending design and circuit-related technology developed by RFMD, to introduce a product portfolio of high-performance silicon switch-based products for next-generation 3G and 4G smartphones, as well as other cellular handset, wireless infrastructure, wireless local area network (WLAN), CATV/broadband and aerospace and defense applications.

Eric Creviston, president of RFMD's Cellular Products Group (CPG), said, "RFMD's CMOS-based cellular switches deliver meaningful performance, size and cost benefits, including excellent linearity and isolation capabilities, which are critical to today's multi-band 3G handsets. We are forecasting significant customer adoption in calendar 2010 driven by leading 3G smartphone manufacturers."

Bob Bruggeworth, president and CEO of RFMD, added, "For RFMD, these new CMOS-based products - and our entire Switch and Signal Conditioning product portfolio - highlight the increasing dollar content opportunities available to RFMD and the continued success of our diversi-

fication efforts. Equally important, our CMOS-based switch portfolio enables further improvement in our return on invested capital (ROIC) as we migrate technologies and IP developed by CPG into the markets served by RFMD's multi-market products group (MPG)."

RFMD's CMOS-based cellular switches meet or exceed the stringent linearity and isolation requirements of next-generation 3G and 4G smartphones while providing superior ESD performance (HBM data rated at 2000V). Also, by integrating the controller and RF switch on the same circuit, RFMD's patent-pending circuit-related technology and the innovative high-resistivity CMOS technology reduce product size while improving product performance. Accordingly, RFMD's silicon switches deliver a lower cost and higher performance 3G solution than is obtainable from competing silicon process technologies, including silicon-on-sapphire (SOS).

RFMD's first high power CMOS-

based cellular switches include the RF1603, a single-pole, three-throw (SP3T) switch, and the RF1604, a single-pole four throw (SP4T) switch. RFMD has sampled both products to tier one customers, and commercial production is expected to commence in the first half of calendar 2010. Subsequent CMOS-based products will address increasing levels of end-product complexity and will include RFMD's growing portfolio of switch filter modules and switch duplexer modules for 3G smartphones.

RFMD offers the mobile device industry's broadest and most innovative portfolio of radio frequency components, including cellular power amplifier modules, cellular transmit modules, cellular switch and filter modules, and front ends for Wi-Fi, WiMAX and GPS applications. RFMD's product portfolio is on display at the 2010 Mobile World Congress in Barcelona, Spain, February 15 to February 18.

[Source: RF Micro Devices]

EUROSIOI ANNOUNCEMENTS

EUROSIOI2010 Tutorials on the web

 The tutorials of the Workshop held in Grenoble this past January are now available in the tutorials section of the EUROSIOI website.

In this section, besides these last tutorials, the previous ones can

also be found. They are organized according to their dates and places and a search engine by years has been also developed. For further details take a look at:

<http://www.eurosoi.org/tutorials.asp>

Skyworks Introduces Family of GaAs and SOI

Antenna Switch Modules for 2/3/4G Wireless Broadband and Mobile Handset Applications



Skyworks Solutions, Inc., an

innovator of high reliability analog and mixed signal semiconductors enabling a broad range of end markets, announced that it has introduced a family of antenna switch modules (ASMs) for 2/3/4G handset and data card platforms using both gallium arsenide (GaAs) as well as silicon on insulator (SOI) technologies. Skyworks products address the three primary switching functions: main antenna, diversity, and band/mode.

These compact solutions deliver state-of-the-art technology to meet both high performance and low-cost architectures, depending upon the interface requirements. By delivering a comprehensive RF switch portfolio based on both technologies, Skyworks is able to augment its already broad portfolio of world-class switches currently used in the company's front-end modules.

"Skyworks is pleased to be supporting such a broad range of next-generation wireless broadband and mobile handset applications with our new family of antenna switch modules," said Dr. Gene A. Tkachenko, Skyworks' senior director of engineering. "These solutions highlight the breadth and depth of our technology as we look to best serve our customers' needs on multiple fronts and with highly integrated architectures."

About Skyworks' 4G GaAs pHEMT and SOI Antenna Switch Modules

- The SKY13362 is a single-pole ten-throw (SP10T) ASM with an integrated complementary metal oxide semiconductor (CMOS) decoder and dual low pass harmonic filters. The small 3.0 x 3.8 mm switch has five 3/4G transmit-receive (TRx) ports, three receive (Rx) ports, and two global system for mobile communications (GSM) transmit signal low-pass harmonic filters that make it the flexible choice for multiple combinations of 2/3/4G multimode cellular applications. Using advanced switch technologies, the ASM maintains low insertion loss and high isolation on both transmit, transmit-receive and receive switching paths. Additionally, the switch was designed to meet or exceed system requirements for 2nd and 3rd harmonics into an antenna mismatch up to 5:1, while delivering linearity (excellent triple beat ratio), and second and third order (IP2, IP3) intermodulation distortion performance to provide manufacturers with sufficient margin in the certification process.

- The SKY14152 is a low-cost, single-pole eight-throw (SP8T) ASM for use in multimode embedded data cards. The compact 3.2 x 3.2 mm device is designed for universal mobile telecommunications system (UMTS), code division multiple access (CDMA2000), enhanced data for GSM evolution (EDGE), and GSM applications and supports flexibility with up to five 3/4G TRx bands. The device consists of an SP8T switch, GSM transmit signal low-pass harmonic filters, and a RX SAW filter.

- The SKY14153 is a low-cost,

single-pole four-throw (SP4T) switch designed for wideband code division multiple access (WCDMA) and diversity switching applications that demand high linearity and low-insertion loss. The compact 2.0 x 2.0 mm switch is optimized for third generation partnership project (3GPP) 3/4G bands from 0.70 to 2.7 gigahertz (GHz).

- The SKY14155 is a low cost, double-pole four-throw (DP4T) switch designed for broadband, 3/4G band switching applications which demand low insertion loss, high isolation, and high linearity. The compact 2.0 x 2.0 mm switch is manufactured using a state-of-the-art SOI process, and is optimized for 3G WCDMA mode/band switching applications.

- The SKY18106 is a SP8T ASM designed for multimode, high power switching applications that demand low harmonics and insertion loss. The 3.2 x 4 mm switch is optimized for both 2G GSM/EDGE and 3G WCDMA applications and supports up to six 3/4G TRx ports with very low insertion loss, high isolation and excellent linearity under antenna mismatch conditions.

The newly introduced switch, ASM and FEM devices rely on state-of-the-art pseudomorphic high electron mobility transistor (pHEMT), SOI, integrated passive device (IPD), and wafer-level chip-scale package (WL-CSP) SAW technologies. No external blocking capacitors are required on any of the RF ports for all of these devices - thus minimizing customers' bill of materials and occupied board space.

[Source: Skyworks]

These compact solutions deliver state-of-the-art technology to meet both high performance and low-cost architectures, depending upon the interface requirements.

[...] "These solutions highlight the breadth and depth of our technology [...]" said Skyworks' senior director of engineering.

ANNOUNCEMENT

Korean International Summer School on Nanoelectronics



The Korean International Summer School on Nanoelectronics is a new annual event, starting in 2010. Nano-KISS will offer every year a panel of detailed lectures on emerging fields in nano-micro-electronics, given by world-class experts. The first edition in 2010 is dedicated to advanced SOI concepts and technologies. It is a unique opportunity for senior and junior researchers to update their knowledge in the rapidly growing field of SOI components. Nano-KISS will bring together scientists from all over the world universities, R&D centers and companies. Nano-KISS is based on the successful model of MIGAS, the international Summer School on Microelectronics, organized for many years in Grenoble area. Nano-KISS is organized by Kyungpook National University (KNU) and Grenoble Institute of Technology (NPG) via World-Class University and Brain Korea 21 projects.

Pyeongsan Academy, located in the fa-

mous Palgong provincial park, is a very attractive place for combining top level lectures with scientific interactions and recreational activities.

2010 Scientific Programme• *Introduction to SOI devices and applications*

-Why SOI? -Prof. J.P. Colinge (Tyndall Ireland)

-Benefit for processors, low-power CMOS, RF, and high temperature applications - Prof. J.P. Colinge (Tyndall, Ireland)

-SOI Device Zoo - Prof. J.P. Colinge (Tyndall, Ireland)

-Technology Modules for SOI - Dr. D.W. Kim (Samsung, Korea)

• *SOI materials*

-Standard Smart-Cut and beyond (ETSOI, GeOI, alter BOX, etc) - Dr. Carlos Mazure (CTO SOITEC)

• *Physics of SOI transistors*

-Mechanisms in partially depleted, fully depleted and multiple gate MOSFETs - Dr.

T. Ernst (LETI, France)

-Advanced modeling and simulation - Dr. T. Ernst (LETI, France)

• *Electrical characterization and reliability*

-Characterization techniques for SOI materials and transistors - Prof. Sorin Cristoloveanu (INPG & KNU)

-Reliability and variability issues - Prof. R. Schrimpf (Vanderbilt Univ. USA)

• *Designing SOI circuits*

-Circuit design for SOI - Dr. R. Ferrant (France)

• *From Micro to Nano*

-Ultimate CMOS scaling and More-than-Moore devices - Prof. Alex Zaslavsky (Brown Univ. USA)

• *Applications*

-MEMS, NEMS, sensors - Prof. S. H. Kong (KNU, Korea)

-SOI floating-body memories - Dr. S. W. Chung (Hynix, Korea)

REMEMBER:

**SemOI Conference begins
26th April and notifications to authors were done in February**

ANNOUNCEMENT

Starting engines for EUROS0I2011



EUROS0I Workshop is an international forum to promote interaction and exchanges between research groups and industrial partners involved in SOI activities all over the world. Following the lively experience of the previous meetings in Granada (2005), Grenoble (2006), Leuven (2007), Cork (2008), Göteborg (2009) and Grenoble (2010), EUROS0I 2011 will be

held at Granada, Andalucía (Spain). It will include oral and poster sessions, outstanding keynote presentations, a training course, a social program as well as ample room for informal discussions.

As a first step the Workshop website is now available at

<http://granada2011.eurosoi.org>

ANNOUNCEMENT

6th International SemOI Conference and 1st Ukrainian-French Seminar

The second announcement for the 6th International SemOI Conference and 1st Ukrainian-French Seminar to be held from 26th-30th April 2010 in Kyiv (Ukraine) has been launched.

The goal of the Conference is to debate about the recent developments in nanometer down scaled Semiconductor-on-Insulator (SemOI) Systems which are basis

blocks for modern high-sensitive sensors in a wide range of applications such as telecommunications, radiation control, biomedical instrumentation, Chemicals analysis, etc.

SemOI is foreseen as a key technology for the integration of high quality and resistant nanoscaled devices and integrated circuits which must operate in harsh envi-

ronment.

The topics to be covered include:

-SOI material technology.

-Nanoscale CMOS devices and circuits.

-New SemOI materials and nanoscaled devices on its basis

-SemOI sensors and new SemOI Systems.



NEWS

CPV Consortium Elects New Board Members with Exceptional

Solar Industry Backgrounds

The CPV Consortium, a non-profit concentrator photovoltaic (CPV) solar industry organization, announced the addition of two respected solar industry veterans to its board: Andreas Bett, PhD and Martha Symko-Davies, PhD. The appointments come at a time when the Consortium has commissioned the University of California, Berkeley to undertake an economic analysis of the CPV carbon footprint, cradle-to-cradle.

The CPV Consortium is dedicated to supporting the development and optimizing the success of CPV technology as a mainstream energy source for distributed and utility-scale deployments. It is a global organization comprised of members from all segments of the CPV industry including system manufacturers, cell suppliers, power generators, tracker suppliers, system integrators, project developers, universities and research laboratories.

Dr. Bett is a deputy director of the Fraunhofer Institute for Solar Energy ISE, where he leads a department focused on materials for solar cells and

technology. Dr. Symko-Davies is a senior supervisor of research at the National Renewable Energy Laboratory (NREL). Both have been elected by the members of the CPV Consortium to serve on the board of directors. "With the appointments of Drs. Bett and Symko-Davies, the CPV Consortium gains decades of expertise from the highest levels of solar industry research and development," said Nancy Hartsoch, director of the CPV Consortium. "Their insight from Fraunhofer, the DOE and NREL will broaden the perspective of the organization, and hopefully facilitate the benefits that public and private cooperation can bring to an emerging technology at a critical time for CPV commercialization."

Dr. Bett is one of the most respected CPV experts in the world. His Fraunhofer department includes the group "III-V-epitaxy and solar cells," which is one of the largest and most esteemed groups active in research and development for

CPV cells, modules and components. He is also an active member in the IEC which develops standards for CPV. Bett is currently the chair and main organizer of the 6th International Conference on Concentrating Photovoltaics, which will be held in April 2010 in Freiburg, Germany.

Dr. Symko-Davies has worked for NREL since she received her doctorate in 1997. Symko-Davies is currently the manager of the PV Technology Incubator, a position she has maintained since its inception three years ago. While at NREL, she has held a variety of positions including photovoltaic (PV) manufacturing technology technical manager and high performance PV project manager. Symko-Davies is also an IEEE PVSC organizing committee member and APS member. She has authored and co-authored over 30 publications about the PV industry, and CPV technology throughout her career.

[Source: Business Wire]

"Their insight from Fraunhofer, the DOE and NREL will broaden the perspective of the organization, and hopefully facilitate the benefits that public and private cooperation can bring to an emerging technology at a critical time for CPV commercialization."

NEWS

Concentrix Solar enters the US market with megawatt CPV deployment at

a Chevron facility



Concentrix Solar, a leading supplier of Concentrator Photovoltaic (CPV) systems and a new division of the Soitec Group (Euronext Paris), the world's leading supplier of engineered substrates, announced that it has signed a contract with Chevron Technology Ventures for the deployment of a one megawatt (MW) CPV power plant to be installed at a Chevron Mining facility in Questa, New Mexico, USA. With this announcement, Concentrix Solar confirms full commercial readiness for worldwide deployment, and is paving the way to

utility-scale CPV projects. Chevron announced this week that the company will install a one megawatt CPV solar power plant using Concentrix Solar's FLATCON® technology. This will be the largest CPV installation in the U.S. and one of the largest CPV power plants in the world. The power produced will be sold through a power purchase agreement to the Kit Carson Electric Cooperative, Chevron stated in their press release (February 23, 2010).

"This commercial deployment is a key milestone for us and our U.S. strategy. It is an important reference for our technology, and the

next logical step considering the outstanding performance demonstrated at our Spanish power plants," said Concentrix Solar CEO, Hansjörg Lerchenmüller. "With their high direct normal irradiance and their high energy demand, the Southwestern states of the USA are perfectly suited for our CPV technology. Our FLATCON® technology's high-precision, two-axis tracking system helps utilities to match U.S. peak power demands. We are excited to prove our technology with Chevron on the Questa site and are planning new investments to further expand our business in the Southwest of the USA in the near future." [Source: Soitec]

"It is an important reference for our technology, [...] considering the outstanding performance demonstrated at our Spanish power plants," said Concentrix Solar CEO, Hansjörg Lerchenmüller."



EUROSIO Network

Thematic network on silicon on insulator technology, devices and circuits.

If you want to contribute to the EUROSIO Newsletter, you can email us with any outstanding event, announcement or news

Mail: eurosoi@ugr.es

The EUROSIO network embraces a broad range of research areas related to Silicon-On-Insulator technology (from materials to end-user electronic applications in traditionally strong European industrial sectors such as automotive, communications, space). EUROSIO aims at federating the existing research work on SOI topics and at providing an appropriate communication channel between academic groups and industrial production centres.

CALENDAR

- Semicon China

Shanghai, China.

March 16th - 18th, 2010

- Korean International Summer School on Nanoelectronics

Daegu, Korea.

April 7th - 10th, 2010

- 217 ECS Meeting

Vancouver, Canada.

April 25th - 30th, 2010

- 6th International SemOI Conference and 1st Ukrainian-French Seminar

Kyiv, Ukraine.

April 26th - 30th, 2010

- International Symposium on Circuits and Systems. ISCAS 2010

Paris, France.

May 30th - 2nd, 2010

- ESSDERC ESSCRIC 2010

Sevilla, Spain.

September 13th - 17th, 2010

- 218 ECS Meeting

Las Vegas, USA.

October 10th - 15th, 2010

- EUROSIO 2011 Workshop

Granada, Spain.

January, 2011