From The Editors

Happy Holidays and welcome to Microsemi's Space Newsletter. This edition brings you the latest news on Microsemi's comprehensive range of components and systems for space applications – from discrete transistors, point-of-load power converters, and hybrids, to FPGAs, ASICs and power management systems for space use. We hope you find the content useful, and we request that you pass the newsletter to your colleagues who are not already on our mailing list. Instructions for registering to receive this quarterly newsletter are included at the end. Please provide the editors with your feedback and suggestions on how we can make the content of this newsletter more useful to you and your teams.

Articles in this edition

NEW PRODUCTS

Microsemi Delivers First 120V Input, 50W Hi-Rel Radiation-Hardened DC/DC Converters

Microsemi continues to lead the industry by introducing the industry's first family of 120 volt, 50 watt high-reliability single, dual and triple output rad-hard DC/DC converters. The converters are high reliability 120volt, 50 watt single, dual and triple output offering options that meet space systems requirements. The robust SA50-120 series is a standard product targeted at satellites with greater than 5 kilowatts of operating power. The new DC/DC converters are available in production quantities now. Microsemi solutions are differentiated by power, security, reliability and performance and the rad-hard DC/DC converter adds to the current product depth.

With the aerospace industry trending towards higher-power satellites that employ a higher voltage main-power bus,

manufacturers are able to significantly reduce the size and weight of main bus wiring, increasing the life of the satellite through fuel efficiency. However, this transition spurs the need for radiation-hardened devices with a higher main-power bus voltage interface capability. Microsemi has stepped up to deliver this high-performance solution that addresses evolving industry needs.

Offered in industry-standard packages, Microsemi's new DC/DC converters are ideal for driving high-reliability satellite power conversion applications. Microsemi has been providing solutions for demanding space applications for 40 years. The new DC/DC converter adds to the already robust stable of more than 150 fully qualified space products.

Read more at: http://investor.microsemi.com/releasedetail.cfm?ReleaseID=619588

SPACE PRODUCTS

QML Class V Qualification Achieved for RTAX-S/SL FPGAs Product Family

In November 2011, the Defense Logistics Agency (DLA), NASA and Aerospace Corporation reviewed Microsemi's RTAX-S/SL family of FPGAs. The RTAX4000S/SL FPGAs, and by extension, RTAX2000S/SL, RTAX1000S/SL, and RTAX250S/SL FPGAs all achieved QML class V qualification. Microsemi has been working with DLA to have the Standardized Military Drawings (SMD) amended and published on the DLA web site. Publication is expected to occur in January 2012. New SMD part numbers with the Class V designator will be published at that time, also. Once published, the RTAX-S/SL parts will be available for ordering under the QML class V SMD numbers.

In particular, for our space customers, this qualification provides the highest level of quality and reliability for purchasing the RTAX-S/SL parts, by simply referencing the DLA SMD part number. Microsemi SoC Group is now a QML Class V certified manufacturer. We continue to invest and commit to provide the space community with best-in-class products.

Price Reduction on RTAX-DSP FPGAs

In order to promote design activities across the industry on the RTAX-DSP FPGAs product family, Microsemi has implemented a price reduction of 25% across all order quantities. Earlier in the year, the price for RTAX-DSP PROTO's was also reduced to provide designers with a more cost-effective prototyping solution. For more info or to receive a quote, please contact your local Microsemi sales representative:
http://www.microsemi.com/soc/company/contact/offices/default.aspx

New Packaging for RT ProASIC3 FPGAs Product Family

Microsemi recently added the 256 pin Ceramic Quad Flat Pack (CQFP) package to the RT ProASIC3 FPGAs product family. CQFP is an industry-standard package and a popular package choice for space applications, providing great advantages for customers. The package assembly, inspection and test process for CQFP are well understood and mature. The 256 pin count offers a more cost-effective integration than the higher pin count packages. And the CQ256 package pin compatibility between RT3PE600L and RT3PE3000L makes migration simple between these devices.

The RT ProASIC3 FPGAs offer many benefits as the first single-chip flash FPGAs with re-programmability for space. Microsemi flash technology does not require additional code storage and mitigation for radiation-induced configuration upsets, in contrast to SRAM-based FPGAs. The re-programmability feature makes it easier to prototype and evaluate designs. Overall, the RT ProASIC3 FPGAs product family with its diversified package portfolio offers many choices and benefits. For CQ256 package pin out, please refer to the RT ProASIC3 datasheet:
http://www.microsemi.com/soc/documents/RTPA3_DS.pdf

Microsemi's space product portfolio draws on the company's overall line of semiconductors, capacitors, diodes and chips including:

Rad Hard Isolated DC/DC modules Rad Hard MOSFETS Rad Hard Bipolar Transisters Rad Hard Non-Linears Rad Hard Point of Loads Rad Hard Linear Regulators Rad Hard Solid State Relays Rad Hard Class S Wafer/Die Rad Tolerant FPGA	Rad Hard Standard ASIC Class "S" Integrated Circuits Customer Design • Rad Hard Power Supplies • Electronic Power Systems (SAT) • Rad Hard Isolated DC/DC converters • Rad Hard Multi-Chip Modules • Electromechanical Relays • ASIC's

Read more at: http://www.microsemi.com/products/product-directory or see our product catalog at:
http://www.microsemi.com/soc/documents/SpaceProdCat_PIB.pdf

Recent Datasheet Updates

The RTAX-S/SL/DSP and RT ProASIC3 FPGAs datasheets have been updated in October 2011. For a complete list of changes made in the latest revision of these datasheets, refer to the List of Changes on page 5-1:

http://www.microsemi.com/soc/documents/RTAXS_DS.pdf
http://www.microsemic.com/soc/documents/RTPA3_DS.pdf

SPACE FORUMS

India is Site of Recent Space Forum

Nearly 300 industry leaders attended Microsemi's Space Forum held in both Bangalore and Ahmedabad. The forums are designed to provide a comprehensive view of the space market as it pertains to Microsemi offerings and to assist customers with understanding the benefits. The agenda was packed with informative presentations illustrating the depth and breadth of Microsemi's portfolio. Microsemi is being recognized not just for their expertise at the component level, but for their ability to design customized system power architectures.

Read More at: http://www.microsemi.com/soc/asf/postconference/welcome.aspx or keep checking back at our Space Forum page to find upcoming dates for the next forums: http://www.microsemi.com/soc/asf/

Committed To India: Space

Building on the success of the Space Forums in India, Microsemi held a press conference in Hyderabad on September 20, 2011. The company reiterated its support to India and its space and defense markets. As a part of the company's "Committed to India Celebration," India's Minister of Information Technology & Communications for Andhra Pradesh, Mr. Ponnala Lakshmaiah spoke about Microsemi and their commitment not just to the growth and prosperity of India's marketplace, but also their equal dedication to the development and enrichment of the communities and people they employ. The partnership between Microsemi and India is a collaboration that is strong and continues to thrive.

Read more at: http://investor.microsemi.com/releasedetail.cfm?ReleaseID=606522

Microsemi Philippines Earns Compliance with Key Quality System Requirements

Microsemi announced today that its facility in Manila, Philippines now complies with rigorous AS9100 Rev C quality system requirements for aviation, space and defense markets. The AS9100 Rev C standard includes an increased focus on risk management, intensive supply chain management controls, and facility-wide continuous improvement activities that include on-time delivery and product conformity measurement systems. Achieving compliance with these standards not only reflects Microsemi's dedication to continuously improving quality management systems, but also provides their customers with the high level of comfort pertaining to quality that they have come to expect.

Additionally, Microsemi Philippines also earned IS0 9001:2008 certification for meeting stringent quality management standards for systems and processes. The quality audits were conducted by EAGLE Registrations, Inc., a certified third-party registrar.

Read more at: http://investor.microsemi.com/releasedetail.cfm?ReleaseID=624726

Microsemi Speaks at the Annual JAXA Microelectronics Workshop in Tokyo

For two days, attendees at the Japanese Aerospace Exploration Agency (JAXA) conference heard from a variety of experts all focusing on the industry's push to research, develop and deploy high-density high performance component technologies.

Microsemi landed a coveted agenda slot at the 24th annual JAXA. CTO Jim Aralis presented Microsemi's portfolio of space capabilities and products and highlighted their more than 40 year history making special note of Microsemi's expertise as "system power architects," including the company's ability to design the optimal power systems for individualized applications. He also reiterated Microsemi's continued commitment to investing in new processes, devices, integrated products and systems to remain at the forefront of semiconductors and system power architecture.

Additionally, while in Japan, a contingent of Microsemi professionals met with space industry giants to further impart the breadth and depth of Microsemi's product lines and capabilities. Microsemi's storied history in serving and partnering with Japan's space industry spans more than 20 years and is growing each year.

CORPORATE NEWS

Microsemi Concludes Acquisition of Zarlink

Microsemi continues to enhance their growth through acquisitions adding Zarlink and their mixed-signal chip technologies. The addition of Zarlink is a compelling strategic fit, enhancing Microsemi's overall product portfolio and specifically increasing the product mix for communications and medical applications. Zarlink adds 900 products and more than 400 customers.

Read more at: http://files.shareholder.com/downloads/MSCC/1543645939x0x484462/D0B96B9D-8151-43ED-BB66-C036D58D57A4/MSCC_Zarlink_Presentation_7_19_11.pdf

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If you have comments or questions on the content of this news letter, please contact the editors at the email addresses provided above.