onsemi's Treo Platform Selected by Teledyne for Advanced Infrared Imaging Design

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Treo's ROIC process technology leverages high-density, low-power architecture for mission-critical aerospace, defense, security, and scientific applications

SCOTTSDALE, Ariz., Oct. 28, 2025 (GLOBE NEWSWIRE) -- onsemi today announced that Teledyne Technologies has selected its Treo platform to develop next-generation readout integrated circuit (ROIC) application-specific integrated circuits (ASICs) for infrared imaging systems. As the industry's most advanced analog and mixed-signal platform, Treo can be combined with specialized ROIC modules to meet the demands of infrared focal plane array (FPA) systems, which are essential to a wide range of aerospace, defense, security, and scientific applications.

Built on an advanced 65nm node, the Treo platform features a modular architecture and a rich set of IP building blocks that help speed up development and reduce time-to-market. Its ROIC process technology combines onsemi's established ROIC offering with Treo's precision analog, advanced digital, and low-voltage power features to deliver a powerful, differentiated solution.

Key Features

- Higher gate density to allow for more functionality in a smaller footprint, improving performance while reducing size
- Lower power dissipation to improve power efficiency and enable longer mission life
- Dense on-chip energy storage to improve signal integrity and support large detector arrays without increasing die size
- Low resistivity substrates for greater resilience against radiation in space and defense applications
- Wide temperature range for consistent performance in extreme conditions, from cryogenic to automotive temperature grades
- Die stitching to support large-format sensor designs for advanced imaging systems

Together, these advanced features enable Teledyne to build smaller, faster, and more reliable imaging systems with mission-critical capabilities that operate efficiently in extreme environments.

"The ability to deliver high-performance imaging sensors that operate reliably in the harshest environments is critical for our space products. The onsemi Treo platform provides the advanced capabilities we need to add more functionality in a smaller footprint, with lower power for thermal management. These are key to our ability to design next-generation infrared imaging systems." —Anders Petersen, Teledyne Imaging Sensors Chief Engineer and Fellow

"onsemi's Treo platform is designed to accelerate innovation and reduce time to market by combining a modular architecture with a comprehensive library of proven IP building blocks. This enables the rapid development of custom ROICs, while the full compatibility of our Treo low-voltage devices within the ROIC flow ensures seamless integration of precision analog and digital functions. This makes Treo the ideal foundation for Teledyne's next-generation infrared imaging designs." —Michel De Mey, Vice President, Sensor Interface Division, onsemi.

The Treo platform is manufactured in onsemi's East Fishkill, NY facility. With the facility's Category 1A Trusted Supplier accreditation, onsemi is positioned to address the U.S. government's need for domestic chip manufacturing in support of national security.

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About onsemi

onsemi (Nasdaq: ON) is driving disruptive innovations to help build a better future. With a focus on automotive and industrial end-markets, the company is accelerating change in megatrends such as vehicle electrification and safety, sustainable energy grids, industrial automation, and 5G and cloud infrastructure. onsemi offers a highly differentiated and innovative product portfolio, delivering intelligent power and sensing technologies that solve the world's most complex challenges and leads the way to creating a safer, cleaner and smarter world. onsemi is included in the Nasdaq-100 Index® and S&P 500® index. Learn more about onsemi at www.onsemi.com.

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