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# Streamline Spacecraft Timing Architecture with Microchip's Radiation-Tolerant, Low-Power, Low-Jitter Six-Output Clock Generator

**The DSA504RT delivers high-performance timing and integration at a cost-efficient price point**

CHANDLER, Ariz., June 25, 2026 (GLOBE NEWSWIRE) -- Spacecraft timing systems must provide highly stable, precise signals for navigation, communications and scientific instruments, even when GNSS signals are weak or unavailable. Designers often rely on multiple oscillators and buffers to supply precise frequencies to various subsystems, adding size, mass and complexity. Microchip Technology (**Nasdaq: MCHP**) announces the space-grade [DSA504RT](#), a radiation-tolerant, six-output programmable clock generator designed to address the complex timing needs of aerospace and defense applications.

The DSA504RT streamlines timing architecture by generating multiple clean, phase-aligned frequencies from a single master source. Additionally, this solution reduces the need for multiple discrete oscillators, lowers overall component count and improves system failure in time (FIT) rate. It also reduces power consumption and mass, as well as simplify distribution networks to keep all subsystems synchronized even in the harshest environments and during GNSS outages or disruptions.

Equipped with an Analog Phase-Locked Loop (APLL) featuring spread spectrum capability, two fractional and two integer dividers, and six highly configurable output buffers, each of which can be configured as a differential driver (LVPECL, LVDS or HCSL) or as a pair of single-ended CMOS outputs, the DSA504RT delivers ultra-low jitter performance as low as 200 femtoseconds (12kHz–20MHz) and is compliant with PCIe® Gen 1-7 standards. This level of integration allows engineers to replace multiple crystals, oscillators and buffers with a single device, improving design reliability, reducing Bill of Materials cost and design complexity.

“This Microchip clock generation device is a game changer for space applications. It can offer a comprehensive clock tree solution, producing three different clock families and up to six different frequencies, each buffered on a variety of selectable output drive types,” said Maamoun Abou Seido, appointed vice president of Microchip's timing communications group. “Replacing numerous oscillators, buffers and synthesizers, the DSA504RT saves board space and reduces part count to improve the system Failures in Time (FIT) rate in these high reliability applications.”

The DSA504RT, offered in QFN28 and CQFP32 packages, serves as a companion device for complex aerospace and defense systems. It enables high integration of clock

architectures within a single chip, distributing precise timing references to subsystems built around radiation-tolerant or radiation-hardened FPGAs and MCUs.

By introducing a cost-efficient, space-grade part within Microchip's proven clock family, the DSA504RT delivers premium timing performance at a lower overall Bill of Materials (BOM) and screening expense. Customers can stay entirely within Microchip's proven radiation-qualified ecosystem, leveraging its space heritage, documentation and global technical support, to accelerate the design process and reduce program risk. To learn more about Microchip's space-grade solutions, visit its [website](#).

### **Pricing and Availability**

The DSA504RT is available in limited sampling upon request. For additional information, [contact a Microchip sales representative](#).

### **Resources**

High-res images available through Flickr or editorial contact (feel free to publish):

- Application image:  
[www.flickr.com/photos/microchiptechnology/54890805103/sizes/l](http://www.flickr.com/photos/microchiptechnology/54890805103/sizes/l)

### **About Microchip Technology:**

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