

Teledyne e2v HiRel Adds 6.0 GHz RF Power Limiter to Expanding Product Line

100 W, Rad-Tolerant Limiter is another monolithic, all-in-one solution

MILPITAS, CA – March 6, 2020 – Adding to a product line it first released in December 2019, [Teledyne e2v HiRel](#) today announced the availability of a [new RF power limiter, the 6.0 GHz, 100W TDLM06100](#).

Like the 2.5 GHz Limiter introduced in December, this new Limiter is a monolithic integrated circuit based on a Silicon-on-Insulator (SOI) technology.

Both products were developed for use in high reliability applications in aerospace and defense, but the 6.0 GHz Limiter was released specifically for applications that require higher frequencies. The TDLM06100 is radiation tolerant to >100 krad(Si), making it the perfect choice for satellites and other high-altitude applications.

For more information, visit **Teledyne booth #708** at [the Satellite 2020 show in Washington, DC March 9-12](#)..

“This new RF power limiter provides significantly expanded performance capabilities to engineers in the space design community,” said Mont Taylor, VP of Business Development at Teledyne e2v HiRel. “It too is an all-in-one, monolithic device that delivers a more reliable and robust power protection solution when compared to discrete GaAs PIN diode circuits with multiple external components, which is the traditional alternative solution in the industry.”

This power limiter delivers low insertion loss and high linearity under non-limiting power levels and extremely fast response time in a limiting event, ensuring protection of sensitive circuitry. Manufactured on the UltraCMOS® process, an advanced form of SOI technology, the TDLM06100 is available in a leadless, ultra-small, 4x4 mm, hermetic, QFN package. Fully screened for space applications, it provides reliable protection for sensitive transceivers, with a response time of <1 ns.

Using the traditional alternative industry solution, the input signal with a PIN diode is shunted to ground. PIN diodes are known for their high maximum power handling and low insertion loss. However, they also feature slow response and recovery time, poor linearity, low ESD ratings, and require dc blocking capacitors. Additionally, PIN diodes take a significant amount of time to design and validate and cannot be easily integrated into a system.

In contrast to PIN diodes, the TDLM06100 power limiter provides a 10–100x improvement in response and recovery time, deliver a greater than 10–30 dB linearity (IIP3) improvement and offer a 20x improvement in ESD protection. Finally, the limiting threshold can be adjusted through a high impedance voltage control pin (VCTRL), eliminating the need for external components such as dc blocking capacitors, RF choke inductors and bias resistors.

UltraCMOS is registered trademark of pSemi Corporation, a Murata company.

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Teledyne e2v innovations lead developments in space, transportation, defense, and industrial markets. Teledyne e2v's unique approach involves listening to the market and application challenges of customers and partnering with them to provide innovative standard, semi-custom or fully-custom solutions, bringing increased value to their systems. For more information, visit <http://www.tdehirel.com>

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