

# STMicroelectronics launches feature-rich, radiation-hardened point-of-load converters for Low Earth Orbit applications

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STMicroelectronics' [LEOPOL1](#) point-of-load step-down converter for Low Earth Orbit (LEO) deployments meets the needs of equipment developers targeting the New Space market, now expanding throughout North America, Asia, and Europe.

The emerging New Space industry, driven by private-sector companies, is enabling new services such as communication and earth observation, delivered from satellites built and launched cost-effectively into low earth orbits. The LEOPOL1 is the latest in ST's LEO series of power, analog, and logic ICs developed for low cost of ownership with quality assurance and radiation hardness optimized for LEO satellites, leveraging automotive best practices including statistical process control.



The LEOPOL1 is radiation hardened by design to withstand the hazards encountered in LEO altitudes, leveraging ST's space-proven BCD6-SOI (Silicon-On-Insulator) technology. Key hardness parameters include 50 krad(Si) total ionizing dose (TID) and 3.1011 proton/cm<sup>2</sup> total non-ionizing dose (TNID). Single-event effects (SEE) performance is characterized up to 62 MeV.cm<sup>2</sup>/mg.

The LEOPOL1 provides extended flexible features including out-of-phase current sharing, which permits multiplying the current to the load with multiple LEOPOL1 converters working in parallel. In addition, synchronization capability allows easy sequencing to power-up equipment with multiple voltage rails. The converter delivers up to 7A and accept an input voltage up to 12V at ground level and has demonstrated 5A at 6V at 62 MeV.cm<sup>2</sup>/mg s.

With the LEOPOL1, ST's LEO series now covers a wide range of circuit-design needs. The portfolio also includes popular logic gates and buffers, an LVDS transceiver, 8-channel 12-bit ADC, and a

low-dropout regulator (LDO). All devices meet ST's proprietary specification developed specifically for LEO applications, which covers performance parameters as well as manufacturing controls, qualification and are delivered with a Certificate of Conformance (CoC).

The LEOPOL1 is in production now. It is available in 31-piece tubes, 250-piece tape and reel, and 7-piece tape sticks for samples. Pricing information is provided on request.

For more information on ST's LEO rad-hard ICs please visit <https://www.st.com/leo>

Alexander Jurman  
STMicroelectronics  
Alexander.Jurman@st.com

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