ZTP Thermal & Power

Space imaging requires optical modules

Overview

Photonic-based devices, encompassing technologies such as lasers, optical fibers, and photodetectors, are instrumental in various aspects of space missions. In the same way that EICs replaced vacuum tubes and other bulk electrical components, PICs are revolutionizing the creation, manipulation and detection of light (photons), replacing free-space and. A notable application is in communication systems, where optical communication facilitates high-speed data transfer, ensuring efficient. The year 2024 will be full of new satellite manufacturing, launches and operations, with major players like Amazon expected to start full-scale deployment of Project Kuiper and strong demand for low Earth orbit (LEO) satellites driving development and launches from the likes of SpaceX and Telesat. To meet this demand and outline capability, G&H has developed miniaturized designs of transmitter and receivers for LEO laser-comms applications. These four designs are referred to in the Figure and Table below as "SmallCat", "Perseus low power (LP)", "Perseus high power (HP)" and "ORIONAS". Photonics is the generation, detection and manipulation (amplification, modulation, processing, switching, steering) of photons. Here at ESA the word photonics largely refers to guided wave technologies either in optical.

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Optical imaging payload design resources , TI

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Introduction Free space optical (FSO) communication is the wireless transmission of data via a modulated optical beam directed through free space, without fiber optics or other

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