Selection Guide for Low-Loss Photonics Co-packaged for Railway Communication

Co-packaged optics (CPO) are heterogeneous integration packaging methods to inte-grate the optical engine (OE) which consists of photonic ICs (PIC) and the electrical engine (EE) which consists of the ...

In this study, we demonstrate photonic resonators by integrating polymeric waveguides using cost-effective ultraviolet (UV) contact lithography on glass substrates. Low-loss waveguides are realized ...

Abstract--Co-packaged optics in next-generation datacenters require the assembly of multiple components on the same multi-chip module (MCM) and interconnection with hundreds of optical fibers.

This demonstration highlights the potential for a simple, fast, low-thermal budget configuration of high-quality glass-based photonics, which is ...

Replace the electrical links with optical links, move the optical I/O closer to the ASIC and bring down the power and cost. Closer integration of photonic and electronic dies introduces new challenges such ...

We simulate and evaluate the performance of our proposed MRM-based coherent CPO (C2PO) transmitters using a foundry-provided commercial silicon photonics process, demonstrating ...

We present two heterogeneous integration techniques that enable high-density electrical and optical I/O connections, utilizing adiabatic coupling ...

Abstract--Co-packaged optics (CPO) has emerged as a promis-ing solution to address the limitations of traditional pluggable optical transceivers, offering enhanced bandwidth, improved en-ergy efficiency, ...

Glass provides high dimensional stability and flatness, enabling high-throughput electronic assembly with high precision optical alignment for co-packaged optic

The successful commercial deployment of glass substrates for co-packaged optics will require wafer- or panel-scale volume production of circuits that will need to be singulated, followed by the low-loss ...

In this paper, we provide an overview and comparison of devices used for optical waveguide-to-waveguide coupling including inter-chip edge couplers, grating couplers, free form ...

Co-packaged optics applications require scalable and high-yield optical interfacing solutions to silicon photonic chiplets, offering low-loss, broadband, and polarization-independent optical coupling while ...

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