



PRODUCT BRIEF

PCIe®/CXL® Retimers Toucan

PCIe 6.x/CXL 3.x 8-lane/16-lane Retimer

Credo is a leading provider of high-performance/low-power semiconductor solutions for the data center, enterprise networking, and high-performance computing markets. Our innovative Serializer-Deserializer (SerDes) technology delivers the bandwidth, scalability, and end-to-end signal integrity needed to meet the demands of advanced data center networks.

Toucan PCIe Gen6.x/CXL 3.x retimers are low-latency, low-power retimers designed to extend PCIe trace-lengths between root-complex and endpoint devices including GPUs, SmartNICs, NVMe SSDs, and CXL memory.

The Toucan x16 supports a wide variety of bifurcation configurations- 1 x16, 2 x8, 4 x4, 8 x2; the Toucan x8 supports 1 x8, 2 x4, 4 x2. Each bifurcated link operates independently with automatic link equalization and training per PCIe specifications.

Toucan pinout is based on the Intel PCIe 6.0 Retimer Supplemental Footprint and is developed using an 7nm process node providing best-in-class cost and power.

Credo's per-link In-band and out-of-band diagnostics and embedded logic analyzer helps customers get products to market faster and provides advanced real time link diagnostics enabling telemetry functionality for large-scale data-center server fleet management.



Applications

- Extending PCIe/CXL trace length for compute, network, CXL memory and NVMe SSD connectivity
- PCIe riser cards
- PCIe active electrical cable (AEC)

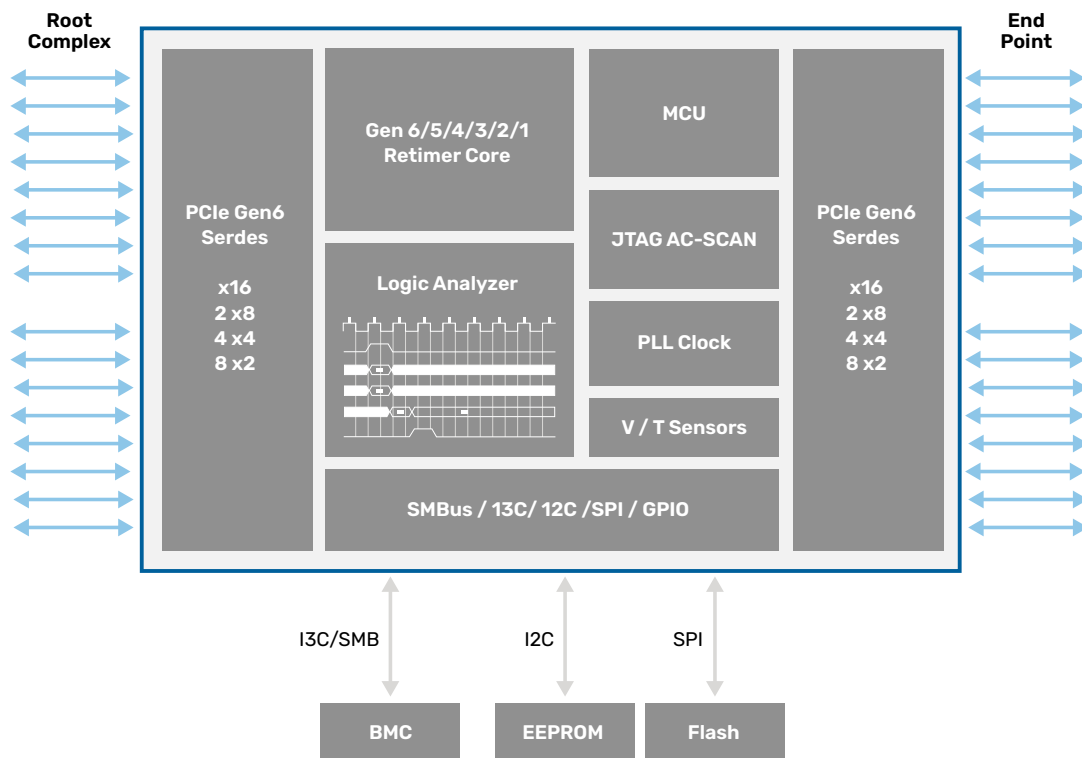
Product Family

- CPR60864-A0-ACGY, x8
 - 8.9mmx13.2mm
 - .5mm Ball Pitch
- CPR61664-A0-ACKY, x16
 - 8.9mmx22.8mm
 - .5mm Ball Pitch

Key Features

- Compatible with PCI Express Gen 6/5/4/3/2/1 and Compute Express Link®3.1 Channel
- Insertion Loss >40dB @16GHz Nyquist for 64 and 32 GT/s operation, full DSP SerDes with 7ns latency
- Embedded Root of Trust (PUF), SecureBoot and DMTF SPDM Secure Attestation Support
- 11W (typ) power for x16 operation
- Integrated Logic Analyzer with in-band and out-of band access
- Support SRNS/SRIS and Common Clock Modes
- SMBus with I2C and I3C support
- Compliant to following industry standards:
 - PCIe Base Specification Rev. 6.2
 - PCIe 6.0 Retimer Intel Supplemental Features and Standard BGA Footprint
 - Intel PCIe and CXL Low-Latency Retimer Specification Rev. 2.0
- Per-link In-Band and Out-of-Band Diagnostics and Embedded Logic Analyzer
- Integrated AC Coupling Capacitors

Functional Block Diagram



About Credo

Credo's mission is to advance high-speed connectivity solutions that deliver optimized performance, reliability, energy efficiency, and security for the next generation of AI driven applications, cloud computing, and hyperscale networks.

Optimized for both optical and electrical applications, our solutions support port speeds up to 1.6Tb. At the core of our technology is our proprietary Serializer/Deserializer (SerDes) IP. Our diverse solutions portfolio includes system-level products such as Active Electrical Cables (AECs), a range of Integrated Circuits, including Retimers, Optical DSPs, SerDes chipsets, and SerDes IP Licensing.

For more information please visit www.credosemi.com
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REV 031225

