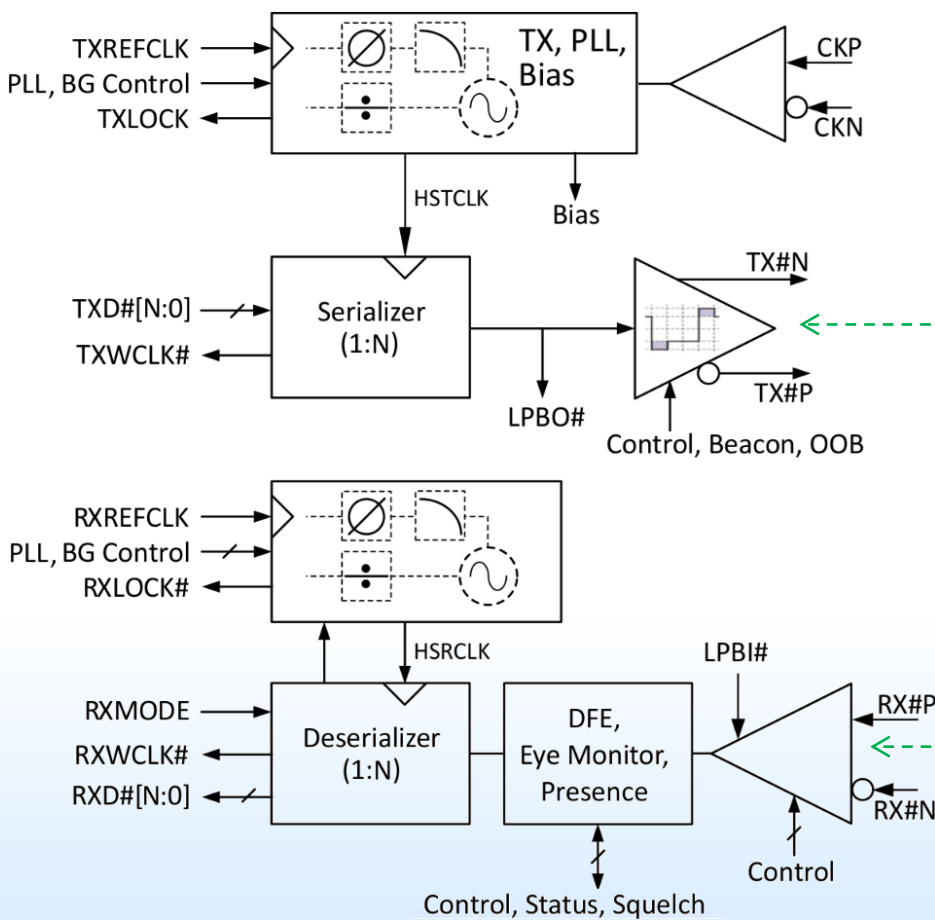




Overview

Silicon Creations has a range of Serializer-Deserializer IP built upon proven ring PLLs and high-speed line drivers and receivers. Our PMA architecture is in production in over 25 SerDes designs from 180nm to 6nm and at speeds up to 32.75Gbps. Our Latency Optimized PMA contributes less than 1.3ns to loop latency independent of word width.



Tx Load to 1st bit out latency = 0.49ns @ 10.3Gbps

Rx last bit in to parallel out latency = 0.77ns @ 10.3Gbps

Features

- Low latency variant with < 1.3ns in-PMA latency @ 10.3Gbps
- Configurable 10/25GbE support with appropriate word width and no latency penalty
- Wide range ring-PLL based architecture
- Low area – less than 1.2mm² for 4 Tx + 4 Rx
- Low power – to 3pJ/bit
- Extremely wide range: e.g. >100:1 from 125Mbps to 32.75Gbps in GF 12LP+
- Tx PLL includes fractional multiplication, spread spectrum and Jitter Cleaner function for Sync-E
- Core-voltage line driver with programmable pre- and post-emphasis
- Programmable CTLE
- Eye monitor to measure eye opening at data slicer on chip

Ultra-low Latency PMA

Availability

Production TSMC 12/16FFC, 40LP
Multiprotocol (PCIe, 10G-KR, JESB204, & ~30 others) available from 40LP to 6FF

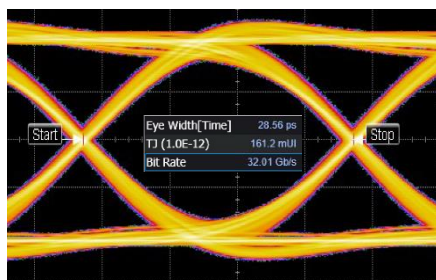
Deliverables

- GDSII
- CDL Netlist
- Rich Verilog Model with Jitter and loop dynamics
- Verilog testbench incorporating BIST
- Liberty timing models (.lib)
- IBIS AMI models
- LEF layout abstract
- RTL wrapper for interface to controller
- Jitter Cleaner RTL supporting Sync-E
- Comprehensive Application Note
- Industry leading support by IP designers
- Support for package design, Signal Integrity modeling and production test development

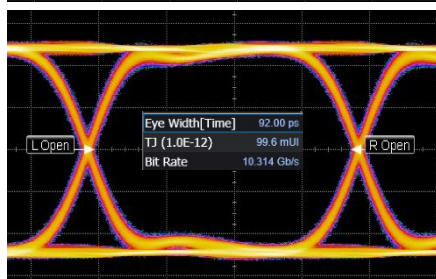
Predictable and excellent performance

GF12LP+

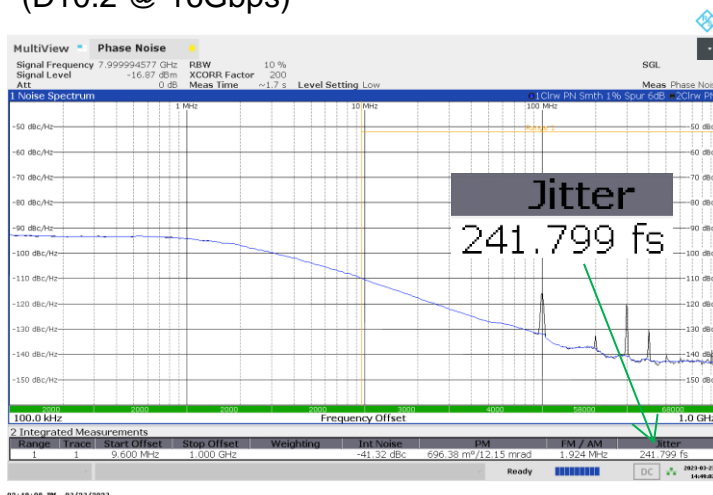
32Gbps
Tx Eye
1.6% UI TJ



10Gbps
Tx Eye
1% UI TJ



TSMC 12FFC PCIe4 Tx Output Phase Noise
(D10.2 @ 16Gbps)



About Silicon Creations

Silicon Creations is focused on providing world class silicon IP for precision and general-purpose timing (PLLs), Chip-chip SerDes and high-speed differential IOs.

Our IP is in production from 3n to 180n. Our complete commitment to our customer success and our support will delight you. Our IP has an excellent record of first silicon to mass production in customers' designs. Our key designs have been comprehensively verified in our labs as well as in mass production with multiple customers.

Silicon Creations was founded in 2006, is self-funded, growing and ISO9001 certified. We have development centers in Atlanta, USA and Krakow, Poland and world-wide sales representation.

Contact us

- Website: www.siliconcr.com
- Phone/fax: +1-678-259-9301
- Email: sales@siliconcr.com



Related Information

- www.siliconcr.com
- Products
- SerDes Interfaces

