BROADCOM®

Connecting **e v e r y t h i n g** ®

BCM8129

PRODUCT Brief

MULTIRATE 10-GBPS SONET/SDH/10GE/FEC DEMUX

FEATURES

- 10-Gigabit MSA (Multi-Source Agreement) compliant
- Fully integrated CDR and demultiplexer with limiting amplifier
- 1:16 DEMUX with LVDS data outputs
- Phase adjustment (Typical 35 ps range with 2.5ps granularity)
- Decision Threshold Level adjustment
- Serial data polarity invert
- Bit order reversal
- Lock detect
- Exceeds SONET jitter requirements
- Core power supply: 1.8V
- I/O power supply: CML and LVDS at 1.8V, CMOS at 1.8V or 3.3V
- Power consumption: 950 mW
- Standard CMOS fabrication process
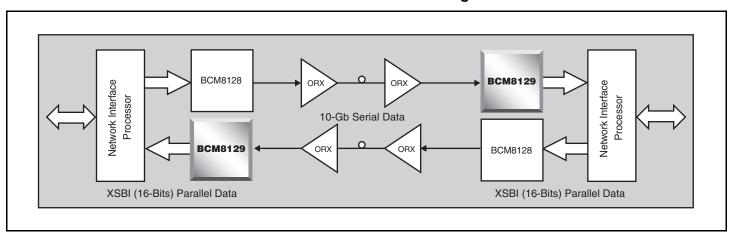- 143-pin BGA package available in standard and Pb-free version

SUMMARY OF BENEFITS

- Compliant with Optical Internetworking Forum (OIF), Telcordia, ITU-T, ANSI, and IEEE 802.3ae industry standards.
- Reduces design cycle and time to market.
- High level of integration allows for higher port density solutions.
- Uses the most effective silicon economy of scale for CMOS-based devices.
- Low-power consumption eliminates the need for external cooling sources.
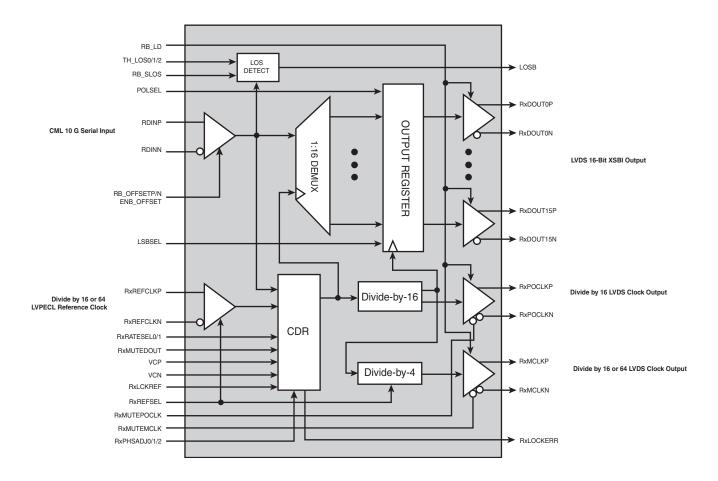
APPLICATIONS

- OC-192/STM-64/10GE transmission equipment
- SONET/SDH optical modules
- ADD/DROP multiplexers
- Digital cross-connects
- ATM switch backbones
- SONET test equipment
- Terabit routers
- Edge routers

BCM8129 Functional Block Diagram

BROADCOM®

The BCM8129 is a fully integrated MSA-compliant quad-rate SONET/SDH/10GE receiver operating at OC-192 (9.953 Gbps), 10GE (10.3125 Gbps), 10GFC (10.315 Gbps), and different FEC (Forward Error Correction) data rates (10.664/10.709, 11.096, or 11.31 Gbps) with deserializer, clock and data recovery (CDR), loss-of-signal (LOS) detection circuitry and advanced feature set. The BCM8129 provides high-jitter tolerance and low-jitter generation to comply with Optical Internetworking Forum (OIF), IEEE 802.3ae, Telcordia, ANSI, and ITU-T standards.

The BCM8129 reference clock input frequency is user-selectable to the line rate divided by either 16 or 64. The reference clock output and the LVDS receive parallel bus output can be squelched under user control.

The BCM8129 can be powered with a single 1.8V supply or dual 1.8/3.3V supply without any special power supply sequencing requirements.

The BCM8129 comes in a 15 x 15 mm, 143-pin BGA package.

Connecting
e v e r y t h i n g ®

BROADCOM.