BROADCOM®

Connecting
e v e r y t h i n g ®

BCM8129
PRODUCT Brief

MULTI-RATE 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
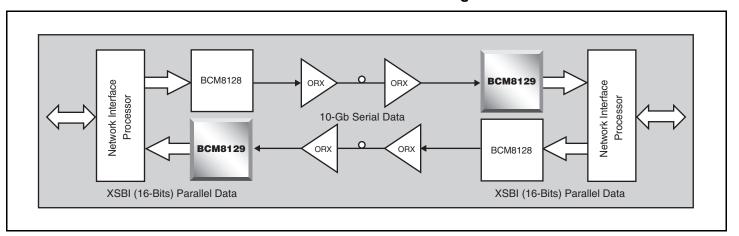- 143-pin BGA package

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.
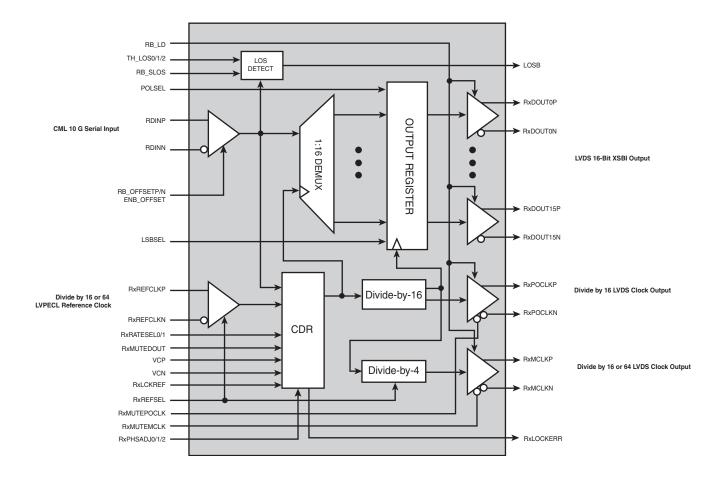
APPLICATIONS

- 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.