

9.953-Gbps INTEGRATED LOW POWER SONET/SDH RECEIVER

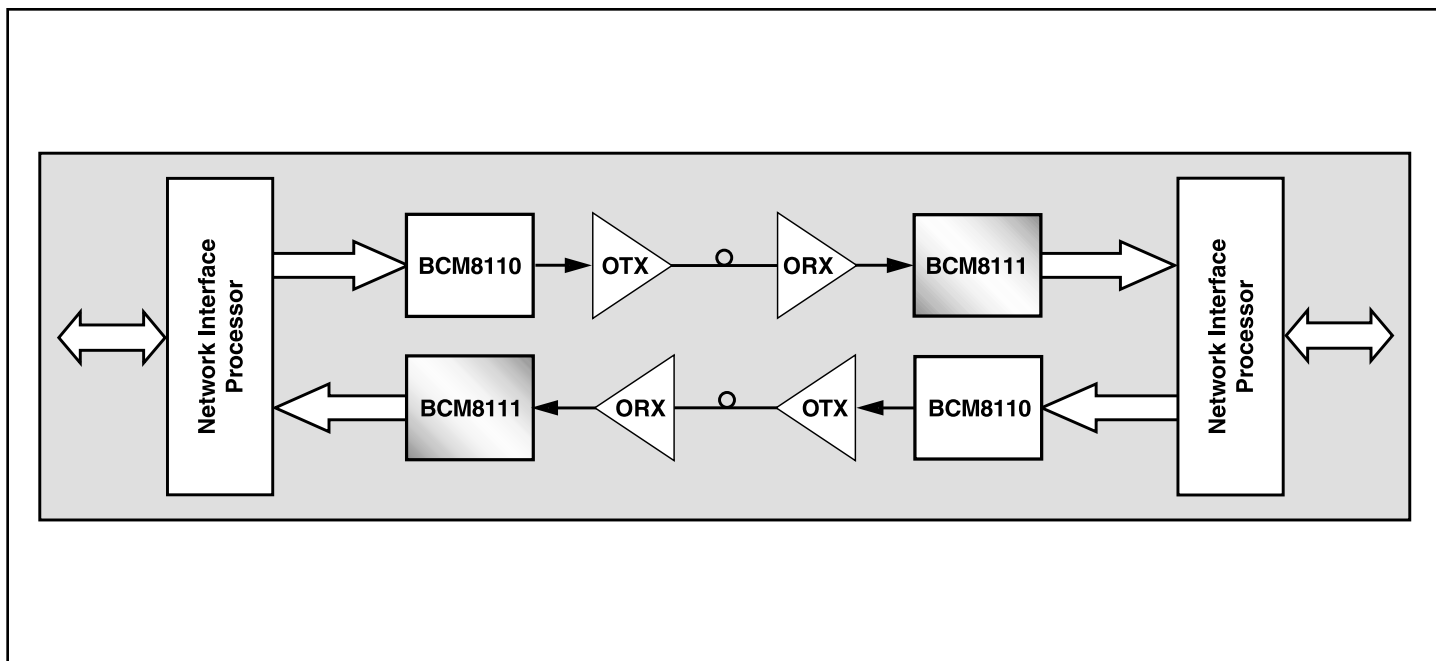
BCM8111 FEATURES

- 9.95328-Gbps SONET/SDH receiver
- Fully integrated deserializer/demultiplexer (DEMUX) with clock and data recovery (CDR) circuit.
- 1:16 DEMUX with LVDS 622.08-Mbps data outputs
- Loss-of-signal detect
- Lock detect
- Core power supply: 1.8V
- I/O power supply: 1.8V or 3.3V
- Power consumption: 900 mW typical @ 1.8V
- Standard CMOS fabrication process
- 120-pin, 15 × 15 mm BGA package

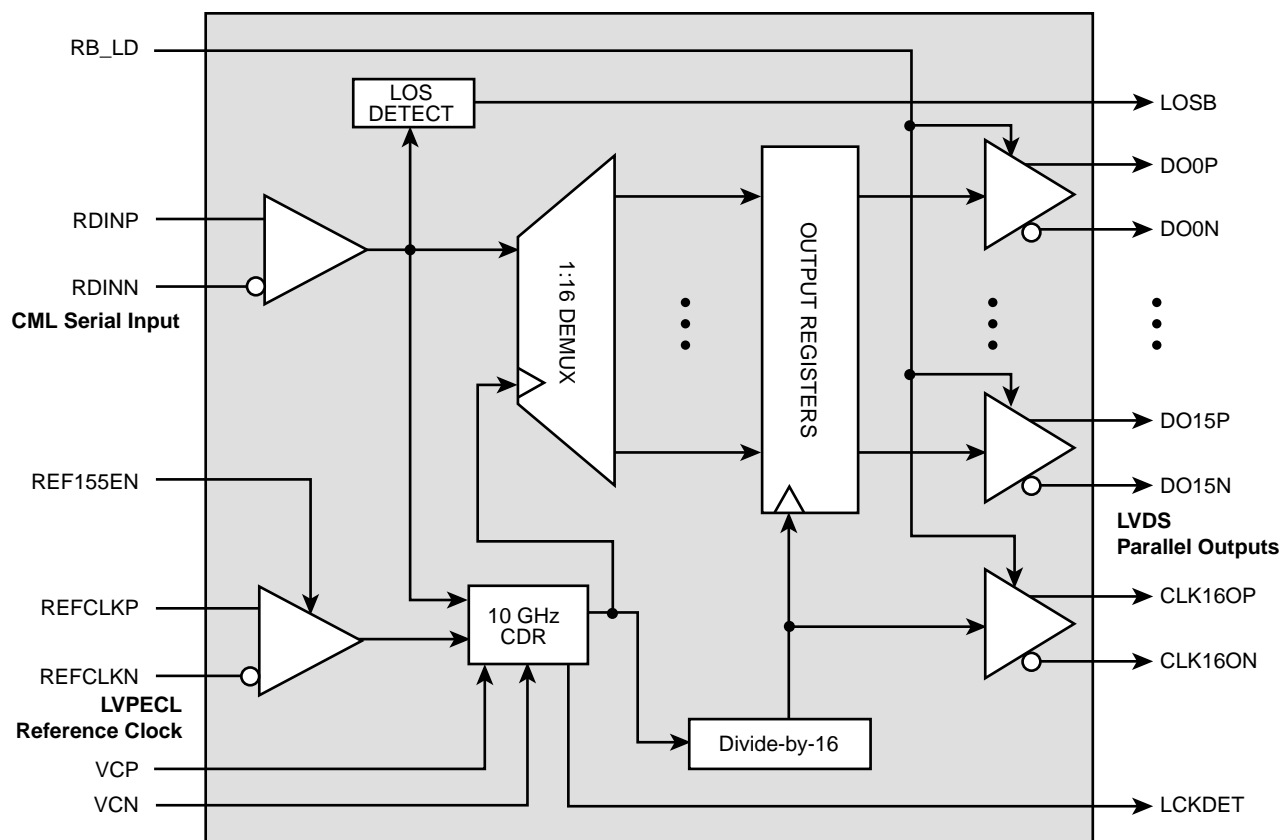
SUMMARY OF BENEFITS

- Compliant with industry standards such as Optical Internetworking Forum (OIF), Telcordia, ANSI, IEEE 802.3ae, and ITU-T specifications.
- Reduces design cycle and time to market.
- Low power consumption eliminates an external heat sink on the chip and fans for system airflow.
- High level of integration allows for higher port density solutions.
- CMOS-based device takes advantage of the most effective silicon economy of scale.
- Target applications:
 - Transmission equipment
 - Optical modules and test equipment
 - ADD/DROP multiplexers
 - Digital cross-connects
 - ATM switch backbones
 - Terabit routers
 - Edge routers
 - Hubs and repeaters
 - Network interface card (NIC)

Application Block Diagram



Block Diagram



The **BCM8111** is a fully integrated SONET/SDH receiver operating at the OC-192/STM-64 data rate of 9.953 Gbps with deserializer, Clock and Data Recovery (CDR), and Loss-of-Signal (LOS) detection circuitry.

The **BCM8111** 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 **BCM8111** reference clock frequency is user-selectable to either the line rate divided by 16 or the line rate divided by 64.

The **BCM8111** receiver implements receive functions for SONET/SDH 10-Gbps equipment. The major functions of the chip are:

- 9.95328-GHz CDR
- CML Receive Serial Data input
- 16-bit parallel LVDS output
- Selectable reference clock frequencies
- Serial-to-parallel conversion
- Lock detect
- Loss of signal

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