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Product Brief
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CB64L2 WDM, 80 km, 1550 nm, 10 Gbits/s Transponder with 16-Ch. 622 Mbits/s MUX/DeMUX and Selectable FEC Rate

Features

- Supports standard OC-192/STM-64 data rate of 9.9532 Gbits/s, FEC rate of 10.6642 Gbits/s, and the Ethernet rate of 10.3 Gbits/s
- Supports reaches up to 80 km
- Cooled 1.5 µm EML laser transmitter and APD receiver
- Available at DWDM ITU compatible wavelengths with 100 GHz spacing
- Optional internal reference clock cleanup circuit for improved jitter performance
- Differential LVDS data interface
- Automatic transmitter optical power control
- Laser bias monitor output
- Optical transmitter enable input
- Laser degrade alarms
- Laser back-facet monitor output
- Laser temperature monitor/alarm output
- Receiver loss-of-power (LOP) analog output
- Transponder alarm interrupt
- Selectable MUX reference input clock: 155.52 MHz or 622.08 MHz (scaled by 15/14 when operating at the FEC rate)
- Provides 10 Gbits/s electrical system diagnostics loopback
- Operating case temperature range:
  — 0 °C to 65 °C, continuous
  — 0 °C to 70 °C, in accordance with NEBS GR63[1]
- Compact size: 4 in. x 3.5 in. x 0.53 in.
- Fully compatible with 300-pin, 10 Gbits/s transponder MSA
- Pigtailed low-profile package with choice of industry-standard connectors

Applications

- Telecommunications:
  — DWDM optical networking
  — Inter- and intraoffice SONET/SDH
  — Metropolitan area networks
  — Subscriber loop
- High-speed data communications

Note: This document is provided to help in the evaluation of samples that are under development and undergoing reliability testing. The samples described should be used only for evaluation. Agere Systems Inc. reserves the rights to change specifications, features, functions, capabilities, release schedule, and prices, and to discontinue development, manufacture, or delivery.

1. NEBS GR63 requirements of operation at 70 °C for 14 days (max) per year, or 96 hours of continuous operation.

Description

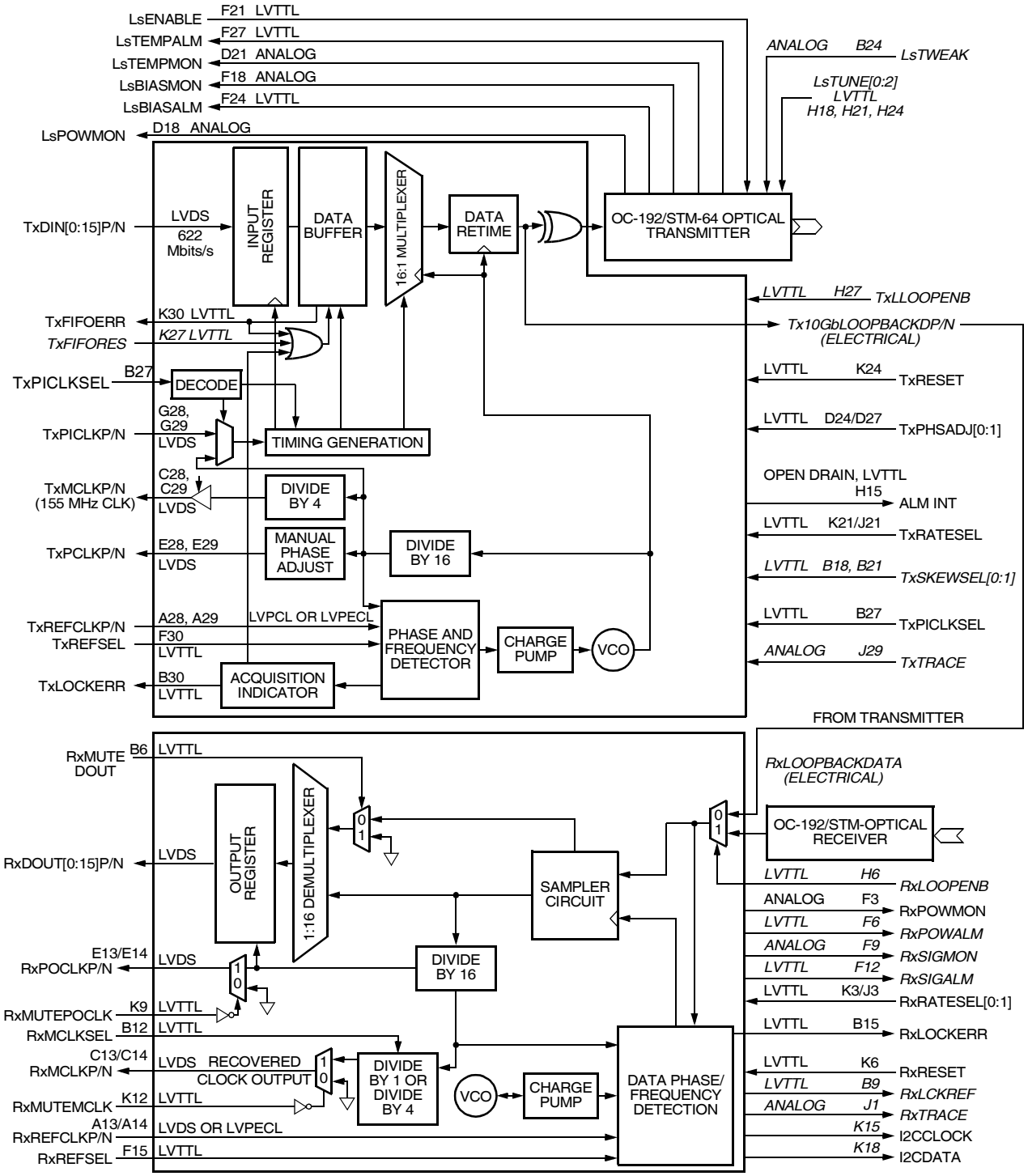
The CB64L2 WDM transponder is a bidirectional module designed to provide a SONET or SDH compliant electro-optical interface between the SONET/SDH photonic physical layer and the electrical section layer. The module contains a 10 Gbits/s optical transmitter and a 10 Gbits/s optical receiver in the same physical package along with the electronics necessary to multiplex and demultiplex sixteen 622 Mbits/s electrical channels. Clock synthesis and clock recovery circuits are also included within the module. The module also supports 10 GbE Ethernet rate of 10.3 Gbits/s and FEC rate of 10.6642 Gbits/s.

In the transmitting direction, the transceiver module multiplexes sixteen 622.08 Mbits/s differential LVDS compatible electrical data signals into an optical signal at 9.95328 Gbits/s for launching into optical fiber. The optical transmitter is available with a cooled, field-proven 1.55 μm EML laser at 100 GHz wavelength spacing for DWDM transport, up to 80 km, long-reach applications. An optional internal reference clock cleanup circuit within CB64L2 WDM provides improved jitter performance. The optical output signal is SONET and ITU compliant for OC-192/STM-64 applications.

In the receiving direction, the transceiver module receives a 9.95328 Gbits/s optical signal and converts it to an electrical signal, extracts a clock signal, then demultiplexes the data into sixteen 622 Mbits/s differential LVDS compatible data signals. The APD-based receiver operates over the wavelength range of 1.1 μm to 1.6 μm, and is fully compliant to SONET/SDH OC-192/STM-64 physical layer specifications.

Figure 1 shows a simplified block diagram of the CB64L2 WDM transponder.

Block Diagram*



* Signals referenced in italics are for future use.

Figure 1. CB64L2 WDM Transponder Block Diagram

Ordering Information

Table 1. Ordering Information

Device Code	Comcode	Connector Type	Device Description
CB64L2CAA	TBD	SC	OC-192 transponder, 1530 nm—1565 nm wavelength, cooled EML transmitter, APD receiver, 80 km reach, SC connector, standard configuration.
CB64L2FAA	TBD	FC	OC-192 transponder, 1530 nm—1565 nm wavelength, cooled EML transmitter, APD Receiver, 80 km reach, FC connector, standard configuration.
CB64L2TAA	TBD	ST	OC-192 transponder, 1530 nm—1565 nm wavelength, cooled EML transmitter, APD receiver, 80 km reach, ST connector, standard configuration.
CB64L2WAA	TBD	LC	OC-192 transponder, 1530 nm—1565 nm wavelength, cooled EML transmitter, APD receiver, 80 km reach, LC connector, standard configuration.
Available on Request	TBD	OC-192 transponder, cooled EML transmitter, APD receiver, 80 km reach, choice of ITU-T 100 GHz standard wavelengths, choice of VCO reference clock filter, choice of SC connectors.	

Table 2. Support Tools

Device Code	Comcode	Connector Type	Device Description
TBD	TBD	SC	300-pin, 10 Gbits/s Transponder Evaluation Board

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