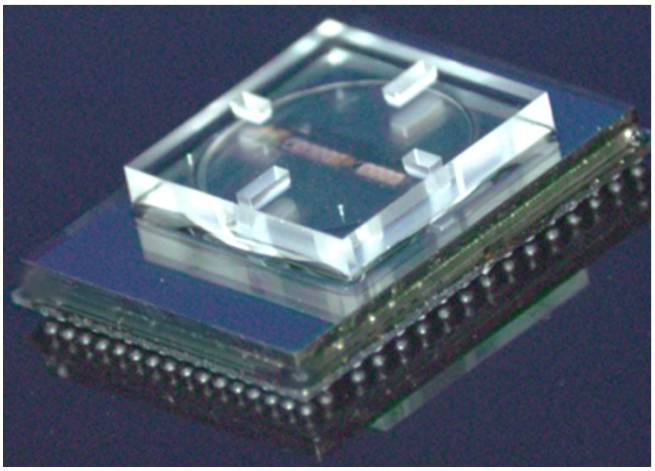
X200SC EMBER Chip Scale Packaged Quad Transceiver
Product Brief



The X200SC EMBER is a Chip-Scale Package (CSP) surface-mount instantiation of a 4-channel transceiver for parallel optical data communications from 1.25 Gbps up to 25/28 Gbps per channel. The X200SC EMBER integrates into a single reflow solderable package a microcontroller unit (MCU), transceiver IC, a GaAs Vertical Cavity Surface Emitting Laser (VCSEL) array, a GaAs PIN photodetector (PD) array and a glass lens array with a lens guide mechanism allowing registration of the RVCON™ parallel fiber termination. The X200SC EMBER electrical interface consists of BGA solder balls that can be reflow soldered onto a circuit board. The X200SC EMBER is designed for hi-reliability systems that require operation in harsh environments, including extended temperature ranges, shock and vibration, temperature cycles and high humidity. It includes advanced built-in-test functionality for continuous monitoring of operating conditions, both internal IC status and external parameters, such as fiber optic link-loss and signal quality.

FEATURES:

- Operating data rate: 1.25 Gbps to 25/28 Gbps per channel
  - Integrated reference-free CDR for 25/28 Gbps operation
  - Multi rate functionality available on certain transceivers – see product-specific
- SMT reflow solderable package
- Removeable connector/fiber termination
- 850 nm VCSEL transmitter
- Package size: 7.7 x 10 mm
- Temperature range: -40 to +95°C
  - See product-specific datasheet for defined operating temperature range
- Module management, controls, and diagnostics available on I^2C & UART
  - DDMI interface based upon SFF-8636 standard
- High Rx dynamic range with AGC (Automatic Gain Control)
- Individual channel power-down

BUILT-IN-TEST (BIT):

- ASIC temperature
- MCU temperature
- Supply voltage
- RSSI – average RX optical power monitoring
- Flags for Loss of Signal (LOS), Loss of lock (LOL), and TX fault on any channel

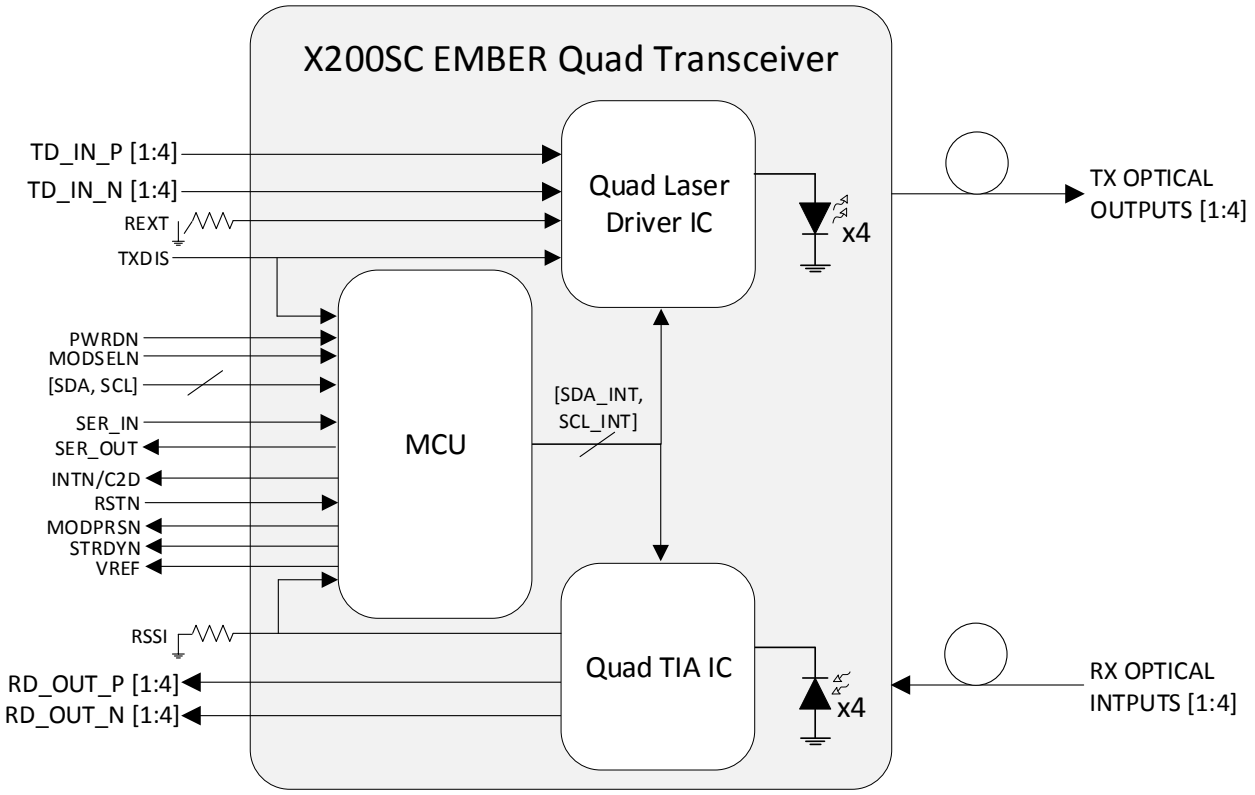


Figure 1: Block Diagram

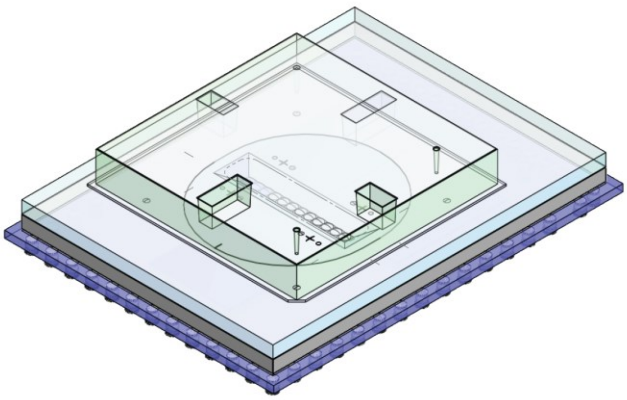


Figure 2: Top view of X200SC Ember transceiver

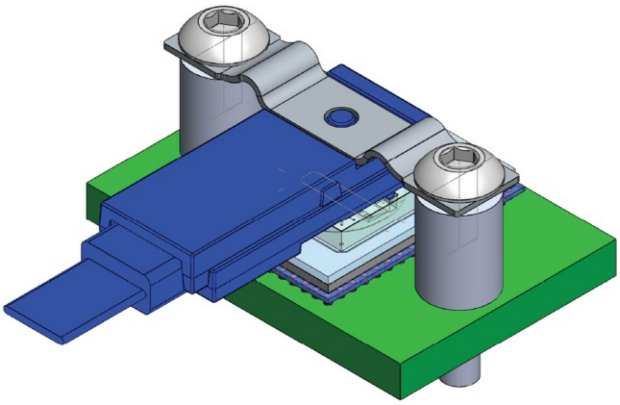


Figure 3: X200SC Ember transceiver assembled onto PWB with RVCON™ cable attached

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