3.125Gbps Parallel CDR Transceiver (0.18µm)

Features
- 2.5Gbps–3.125Gbps per channel unidirectional data transfer rate
- 156 to 195MHz input reference clock and parallel interface
- Available in 2/4/8/16-channel width CDR Rx and Tx arrays for back-plane applications
- Differential PCML (Vterm=1.8V in case of DC coupling)

Benefits
- Available as library cell for ASIC designs
- Programmable Tx voltage swing and amount of pre-emphasis
### Description

Fujitsu's parallel transceiver, which is available in 2/4/8/16-channel width CDR receiver and transmitter arrays, is for ASICs that perform at high bandwidth data communications.

The macro meets SONET/SDH OC-48 jitter tolerance mask requirement. The macro has 175mW/ch power dissipation (including Rx, Tx, CDR, bias circuit and PLL, maximum pre-emphasis, 16ch case) and runs under power supply of 1.8V±0.15V, 3.3V±0.30V and junction temperature of -40°C ~ 125°C.

The macro is fabricated in Fujitsu’s standard 0.18µm CMOS technology.

This macro can be used in a variety of applications:
- WAN router or switch backplanes and line card to switch fabric interface
- Any backplane link for 2.5 ~ 3.125Gbps data rate

### Deliverables

The Fujitsu value-added 3.125Gbps Parallel Transceiver Macro enables our customers to design a variety of complex system-on-a-chip ASIC designs for high end networking applications.

A Fujitsu application engineer works with the customer to identify the customers' specific IP requirements. Fujitsu will provide the customer with the following information to support the 3.125Gbps Transceiver macro:

- Verilog Model
  - Front-end simulation
  - C model with Verilog wrapper
- Design Compiler Model
  - Timing analysis
- Library Exchange Format (LEF)
  - Floorplanning
  - Place and Route

The macro delivers the following:

- **Verilog Model**
  - Front-end simulation
  - C model with Verilog wrapper
- **Design Compiler Model**
  - Timing analysis
- **Library Exchange Format (LEF)**
  - Floorplanning
  - Place and Route

This macro can be used in a variety of applications:
- WAN router or switch backplanes and line card to switch fabric interface
- Any backplane link for 2.5 ~ 3.125Gbps data rate