VSC7992

VITESSE

10.7 Gb/s RZ or NRZ Laser Modulator Driver

FEATURES:

▸ Single –6.5V Supply

▸ Output Data Retiming

▸ Selectable RZ or NRZ Data Formatting

▸ Differential Inputs with 50 Ω On Die Termination

▸ Excellent Output Return Loss with 50 Ω Output Back Termination

▸ Programmable Output Data Eye Crossing Point

▸ 3V Output Compliance

▸ Available in Bare Dice, or 22-pin 12mm x 13mm Ceramic Package

APPLICATIONS:

▸ Long Haul SONET/SDH Transmission Systems

▸ 9.983 Gb/s SONET OC-192/SDH STM-64

▸ 10.7 Gb/s OTN G.709/G.975

▸ 10.7 Gb/s SONET/SDH with FEC

▸ 10.7 Gb/s DWDM

BENEFITS:

▸ Selectable RZ modulation capable of directly driving Externally Modulated Lasers, such as Differential Mach-Zender Modulators (MZ) or Electro-Absorption Modulators (EAM), without the need of a second modulator and driver for pulse carving.

▸ Extended Case Temperature Range (0°C to 75°C) Providing More Thermal Margin for System Design

▸ Direct Access to Output Modulation and Offset Bias Controls Allowing Precision Monitoring and Setting of the Voltage Levels

▸ Duty Cycle Control to Optimize the Optical Output Eye

SPECIFICATIONS:

▸ Supply Voltage: –6.5V

▸ Supply Current: 500mA (typical)

▸ Power Dissipation: 3W (typical)

▸ Input Sensitivity: 400mV to 1V single ended or differential

▸ Data Rate: 10.7 Gb/s

▸ Clock Rate: 10.7 GHz

▸ Output Modulation Voltage: 2 to 3V

▸ Output Rise Fall Time: 27 ps (max)

▸ RZ Pulse Width Range: 47ps to 53ps

▸ NRZ Pulse Width Range: 85ps to 93ps

▸ Operating Temperature from 0°C to 75°C

▸ Package:
  - VSC7992-W: Dice
  - VSC7992FX: 22-pin Ceramic Package
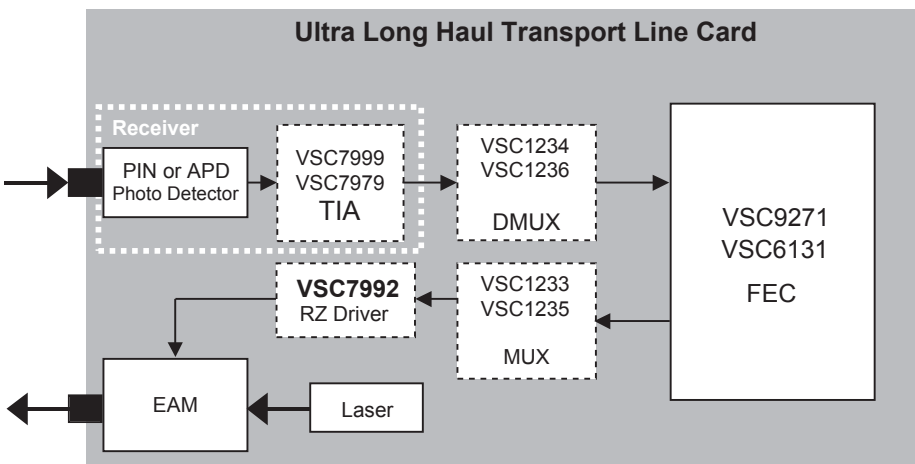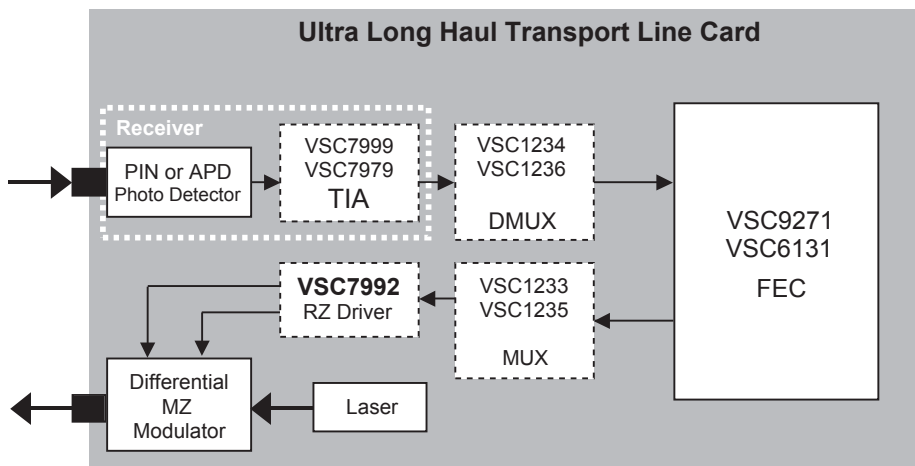
VSC7992

10.7 Gb/s RZ or NRZ Laser Modulator Driver

GENERAL DESCRIPTION:

The VSC7992 is a 10.7 Gb/s laser diode modulator driver with direct access to the laser modulation transistors. Laser modulation currents are set by external components allowing precision monitoring and setting of current levels. Clock and data inputs are differentially terminated to 50 ohm. Both Return-to-Zero (RZ) and Non-Return-to-Zero (NRZ) data formats may be generated. The VSC7992 is available in a 22-pin ceramic package or in die form.

APPLICATION DIAGRAMS:

Ultra Long Haul Transport Line Card

Ultra Long Haul Transport Line Card