

VSC7979, VSC7999

VITESSE

11.3 Gb/s Transimpedance Amplifiers with Photocurrent Monitor and Input Slicing Adjust



APPLICATIONS:

- (10G Receiver Optical Sub-Assemblies:
 - 9.983 Gb/s SONET OC-192/SDH STM-64
 - 10.3 Gb/s Ethernet
 - 10.5 Gb/s Fibre Channel
 - 10.7 Gb/s OTN G.709/G.975
 - 12.5 Gb/s SONET with FEC
 - DWDM SONET/SDH
- (Transponders:
 - XENPAK, X2, XPAK Modules
 - 300-pin MSA Modules
- (Transceivers:
 - XFP Modules

FEATURES:

- (Single +3.3V Supply
- (9K Ω Differential Transimpedance – VSC7999
- (3K Ω Differential Transimpedance – VSC7979
- (Low Power Consumption for XFP Applications
- (Photo Linear Current Monitor
- (Input Slicing Adjust for Fiber Dispersion Compensation
- (Available in Bare Dice

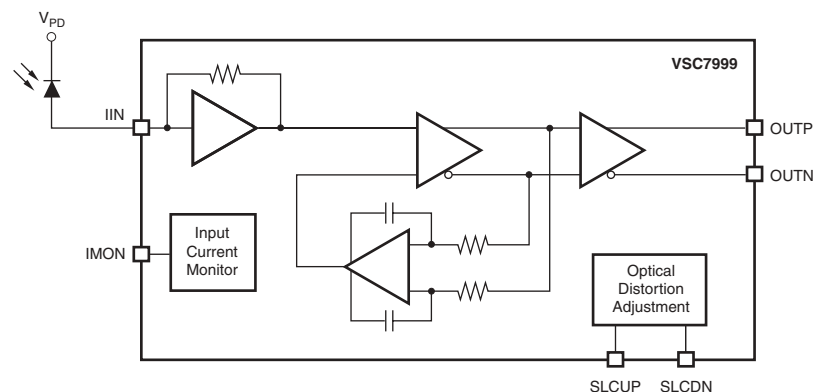
BENEFITS:

- (Source Terminated Differential Outputs for High Signal Integrity
- (Linear Photocurrent Monitor Offers Diagnostic Capabilities
- (Input Slicing Adjust Allows the End User to Optimize the Receiver Performance for Fiber Dispersion and Non-linearity

SPECIFICATIONS:

- (Supply Voltage: 3.3V \pm 10%
- (Power Dissipation: 210mW – VSC7999
- (Power Dissipation: 180mW – VSC7979
- (Input Noise: 12 pA/ $\sqrt{\text{Hz}}$
- (Bandwidth: 10.5GHz (typical)
- (Sensitivity : -19dBm (typical)
- (Max Input Current: 2.5mA p-p (min)
- (Operating Temperature from -10 $^{\circ}\text{C}$ to 85 $^{\circ}\text{C}$

BLOCK DIAGRAM:



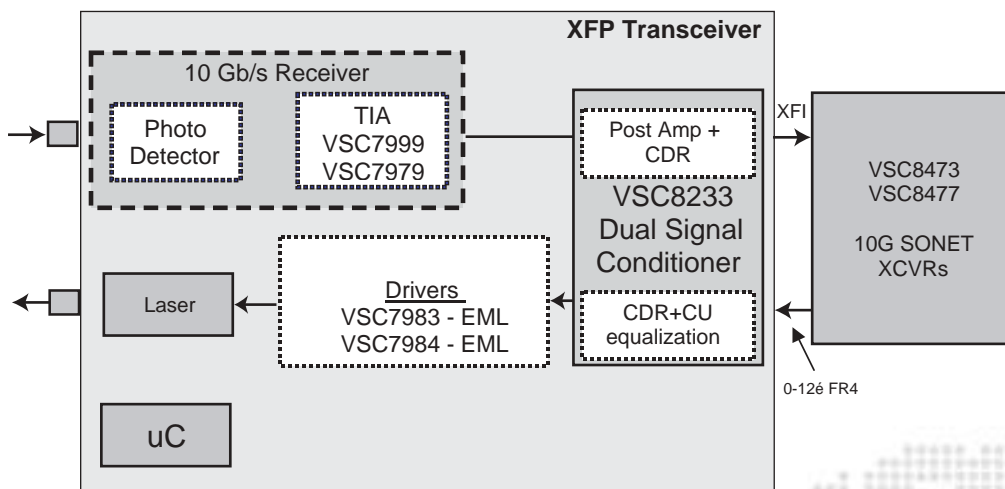
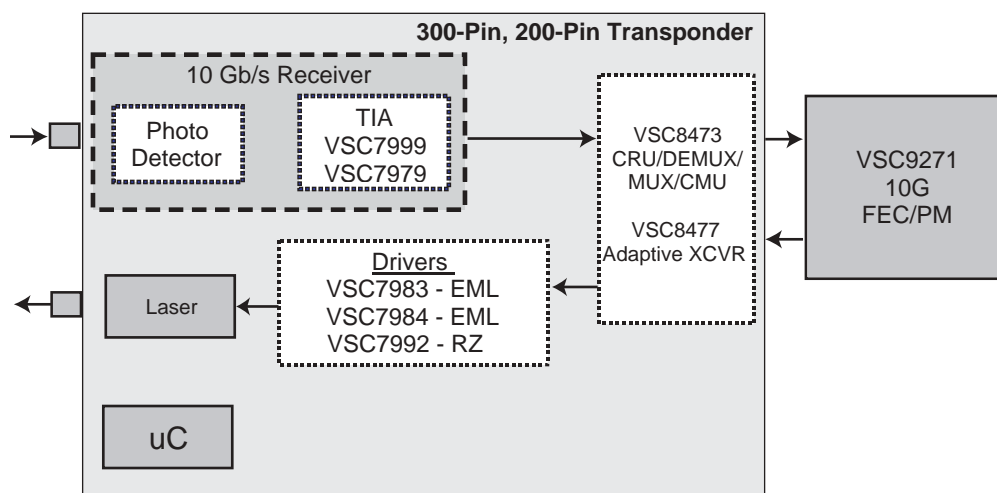
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GENERAL DESCRIPTION:

The VSC7999 and VSC7979 are 10.7 Gb/s - 12.5 Gb/s high performance, low power transimpedance amplifiers designed for use in optical communication systems. The devices are intended for use with a PIN or an APD photodetector, and are capable of amplifying input currents over 2.5 mA with low duty-cycle distortion and with little total jitter change. The VSC7999 and VSC7979 offer 9kohm and 3kohm differential transimpedance respectively, eliminating the need for an additional post-amplifier. The outputs limit to a typical differential value of 600mVp-p, increasing the dynamic range of the system by reducing the possibility of exceeding the input voltage range of the transceiver device. The VSC7999 and VSC7979 also allow compensation for fiber non-linearities such as dispersion and EDFA non-linearity.

APPLICATION DIAGRAMS:



For more information on Vitesse Products visit the Vitesse web site at www.vitesse.com or contact Vitesse Sales at (800) VITESSE or sales@vitesse.com

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