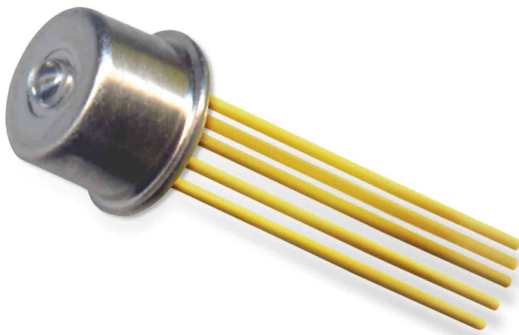


VSC7971, 7973

VITESSE

2.5 Gb/s Transimpedance Amplifier with Photocurrent Monitor



APPLICATIONS:

- ▶ Gigabit Ethernet Transceivers
- ▶ Fibre Channel Transceivers
- ▶ SONET/SDH Transceivers
- ▶ SONET/SDH Transponders
- ▶ 2.5 Gb/s Receiver Optical Sub-Assemblies

FEATURES:

- ▶ Single +3.3V Supply
- ▶ 6k Ω Differential Transimpedance
- ▶ 2GHz Small Signal Bandwidth
- ▶ Low Power Consumption for SFP/SFF Applications
- ▶ Differential Outputs with Linear Current Monitor
- ▶ Available as Bare Dice or in a 5-pin TO-46 Package

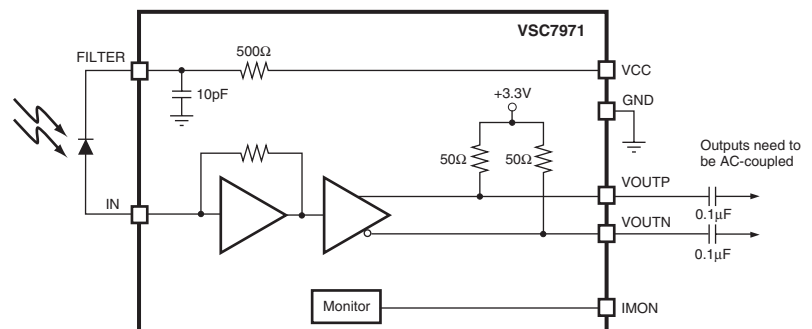
BENEFITS:

- ▶ Source terminated differential outputs with linear photocurrent monitor offers diagnostic capabilities without sacrificing high signal integrity.
- ▶ On-chip filter provides positive bias to the photodetector, eliminating the need for external components, saving space and cost.
- ▶ Available in a TO-46 package, eliminating time and costs associated with the design, assembly and test of the receiver.

SPECIFICATIONS:

- ▶ VSC7971 and VSC7973
 - Input Noise: 550 nA (rms)
 - Bandwidth: 2.0 GHz
 - Supply Current: 25mA
 - Sensitivity : -23dBm (long wave) -21.5dBm (short wave)
 - Max Input Current: 2.2mA peak to peak current
 - Power Dissipation: 82.5mW
 - Supply Voltage: 3.3V
 - Operating Temperature from -40°C to 85°C
 - Package (VSC7971): Dice, 5-pin TO-46 (1310nm/1550nm)
 - Package (VSC7973): Dice, 5-pin TO-46 (850nm)

BLOCK DIAGRAM:



2.5 Gb/s Transimpedance Amplifier with Photocurrent Monitor

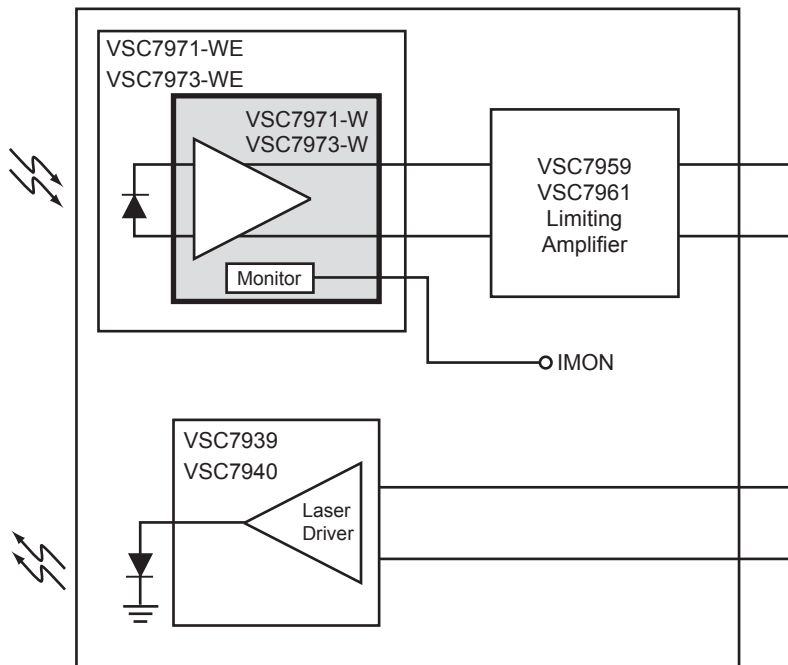
GENERAL DESCRIPTION:



The VSC7971 and VSC7973 are high-performance Transimpedance Amplifiers (TIA) for Ethernet, Fibre Channel, and SONET applications up to 2.5 Gb/s. They feature 6k Ω differential transimpedance and 2GHz bandwidth with source-terminated differential outputs. Both devices have a linear photocurrent monitor output, adding diagnostic capabilities. A space-saving filter connection is provided for a positive bias to the photodetector through an on-chip 500 Ω resistor to VCC, allowing for easy assembly on a TO-46 header.

They both operate from a single +3.3V supply. The VSC7971 is offered as bare dice or in a 5-pin TO-46 package with a 1310nm PIN photodetector. The VSC7973 is offered as bare dice or in a 5-pin TO-46 package with an 850nm PIN photodetector.

APPLICATION DIAGRAM:



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