

VSC7978

VITESSE

9.9 Gbps – 11.3 Gbps High Gain Transimpedance Amplifier for TO-Can Based ROSA Applications



FEATURES:

- ▶ TO-46 Can Compatible Die Size
- ▶ 4k ohm Differential Transimpedance Gain
- ▶ Low Power, 140mW typ.
- ▶ Photodetector Current Monitor Voltage Output
- ▶ Single +3.3V Power Supply
- ▶ Integrated Photo Detector Bias Circuit

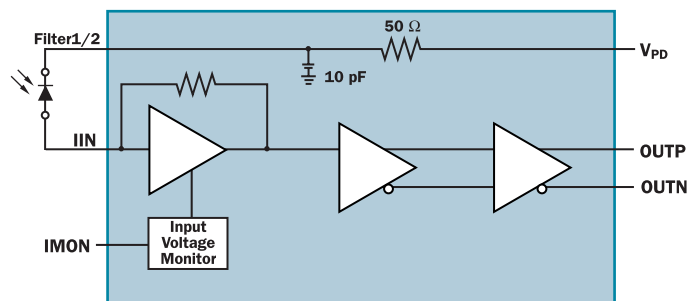
BENEFITS:

- ▶ Lowest Cost 10 Gbps ROSA Solution Designed Specifically for High Volume XFP Module Applications

SPECIFICATIONS:

- ▶ Transimpedance Gain 4k ohm Differential
- ▶ Low Frequency Cutoff 30kHz
- ▶ Overload Current 4.5mA
- ▶ Limiting Output 360mV Differential
- ▶ 3dB Bandwidth in a TO-46 Can 8GHz
- ▶ NOTE: All Specifications are Typical

BLOCK DIAGRAM:



GENERAL DESCRIPTION:



The VSC7978 is a 9.9 Gbps – 11.3 Gbps high performance, low power transimpedance amplifier designed for use in TO-46 Can based Receiver Optical Sub Assemblies (ROSA) for optical communication networks; SONET/SDH (OC-192/STM-64), 10G Ethernet, 10G Fiber Channel and OTN applications. The device is intended for use with a PIN photo detector or APD, and is capable of amplifying input currents of up to and greater than 3.5mA_{p-p} with low duty-cycle distortion. The VSC7978 offers 4k Ω differential transimpedance, eliminating the need for an additional post-amplifier. The outputs limit to a typical differential value of 300mV_{p-p}, increasing the dynamic range of the system by reducing the possibility of exceeding the input voltage range of the transceiver device. A space-saving filter connection is provided for a positive bias to the photo detector through a 50 Ω resistor to external VCCPD. The VSC7978 operates at 3.3V power supply and is offered as bare die form.

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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The Vitesse logo, consisting of the word 'VITESSE' in a bold, blue, sans-serif font, set against a background of a dotted world map.

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