

## Product Brief VSC8144/VSC8146

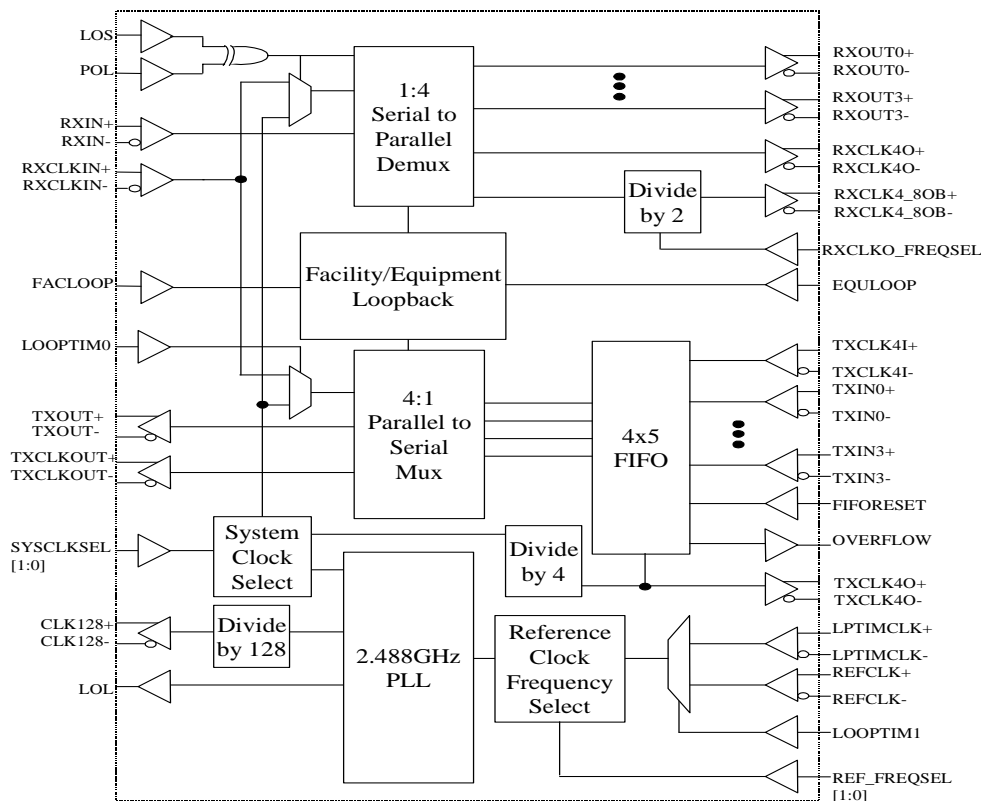
2.488 Gbit/sec 4:1 SONET/SDH  
Transceiver with Integrated Clock Generator

### Features

- Multi-rate Transceiver Targeted for SONET OC-48, OC-24, OC-12, OC-3, and Gigabit Ethernet Rates.
- 4-bit LVDS Low Speed Interface
- On-chip PLL Based Clock Generator
- High-Speed Clock Output with Power Down Option
- Equipment, Facility and Split Loopback Modes
- Meets Bellcore Jitter Performance
- Single 2.5V Power Supply (VSC8146), 3.3V (VSC8144)
- 1.5 W (VSC8146), 2.1 W (VSC8144) Max Power Dissipation
- 100-pin PQFP (14x14x2mm) or TQFP (14x14x1.4mm) Package

### General Description and Block Diagram

The VSC8146 and VSC8144 are SONET/SDH compatible 2.5V and 3.3V multi-rate transceivers with integrated clock generator for use in SONET/SDH systems operating at OC-48, OC-24, OC-12, OC-3, or Gigabit Ethernet data rates. The internal clock generator uses a phase locked loop (PLL) to multiply either a 77.76MHz, 155.52MHz, or 622MHz reference clock for internal logic and output retiming. The 4-bit parallel LVDS interface incorporates an on-board FIFO to address loop timing design issues. Facility and Equipment Loopbacks can be configured separately or simultaneously. These devices operate with 1.5W (VSC8146) and 2.1W (VSC8144) maximum power and are packaged in either a thermally enhanced 100-pin PQFP or TQFP Package.



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## Ordering Information

The order number for this product is formed by a combination of the device number and package type.

VSC81XXYY

Part Number (XX) on both devices:

VSC8144 - 2.488 Gbit/sec 4:1 SONET/SDH Transceiver with Integrated Clock Generator, 3.3V

VSC8146 - 2.488 Gbit/sec 4:1 SONET/SDH Transceiver with Integrated Clock Generator, 2.5V

Package Suffix (YY) on both devices:

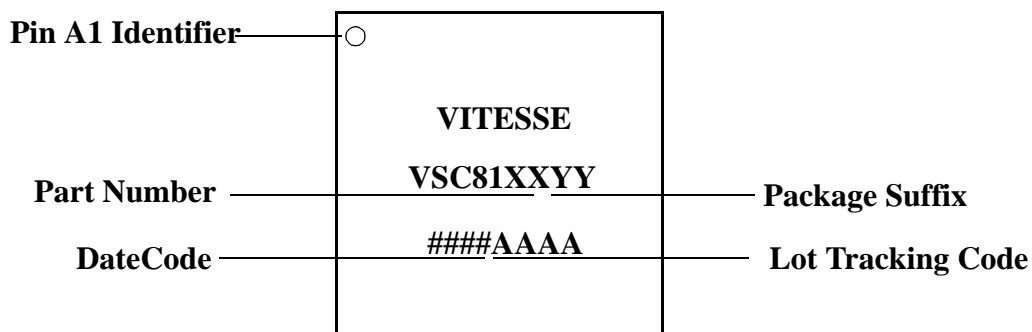
QQ = 100 PQFP 14x14x2 mm

RE = 100 TQFP 14x14x1.4 mm

## Marking Information

The package is marked with three lines of text as shown below.

**Figure 1: Package Marking Information**



## Notice

This document contains information about a new product during its fabrication or early sampling phase of development. The information in this document is based on design targets, simulation results or early prototype test results. Characteristic data and other specifications are subject to change without notice. Therefore, the reader is cautioned to confirm that this datasheet is current prior to design or order placement. Please contact Vitesse Semiconductor to obtain the latest product status and most recent versions of this specification.

## Warning

Vitesse Semiconductor Corporation's product are not intended for use in life support appliances, devices or systems. Use of a Vitesse product in such applications without written consent is prohibited.

## Contact Information

To obtain device samples, eval-boards, application notes, or detailed technical product data sheets on the above product, please email [prodinfo@vitesse.com](mailto:prodinfo@vitesse.com).