# VITESSE
### SEMICONDUCTOR CORPORATION

**Product Brief**
# VSC8172

## Features

- 10 Gbit/sec SONET/SDH 1:16 Demux

- Integrated Clock and Data Recovery

- Input Data Sensitity of 50mV

- Input Threshold Voltage Adjustment

- Operation at 9.953 to 10.66 Gb/s rates

- Low Speed LVDS Outputs

- 19.44/20.83 Ref Clock Input

- Loss of Lock

- No Reference Clock Detection

- Parity Bit Calculation

- -5.2 V and -2.0 V Supplies

- Meets SONET OC-192 and SDH STM-64 Jitter Tolerance Requirements

## General Description

The VSC8172 combines a clock recovery unit and data retiming with a 1:16 demultiplexer on a single chip to directly generate 16-bit wide data from an incoming 9.953/10.66 Gb/s data stream. An on-chip Phase-Locked Loop (PLL) with voltage controlled oscillator generates a 9.953/10.66 GHz clock, which remains phase locked to the incoming data. The clock generator requires a 19.44/20.83 MHz PECL reference clock input (REFCK$\pm$). The incoming data is retimed and demultiplexed into 16 parallel outputs. The input serial data path includes an amplification stage that provides 50mV input sensitivity. In addition, the input sampling point can be adjusted in voltage for optimal data recovery. The device has two output alarm conditions. Loss of Lock (LOL) reflects the lock condition of the PLL, no reference (NOREF) indicates the loss of reference clock input. Additional features include a parity bit, clocked out with the 16 parallel data. The device is packaged in a 100 pin thermally enhanced Plastic Quad Flat Pack (PQFP) package or a 96 Ball Grid Array (BGA) package.
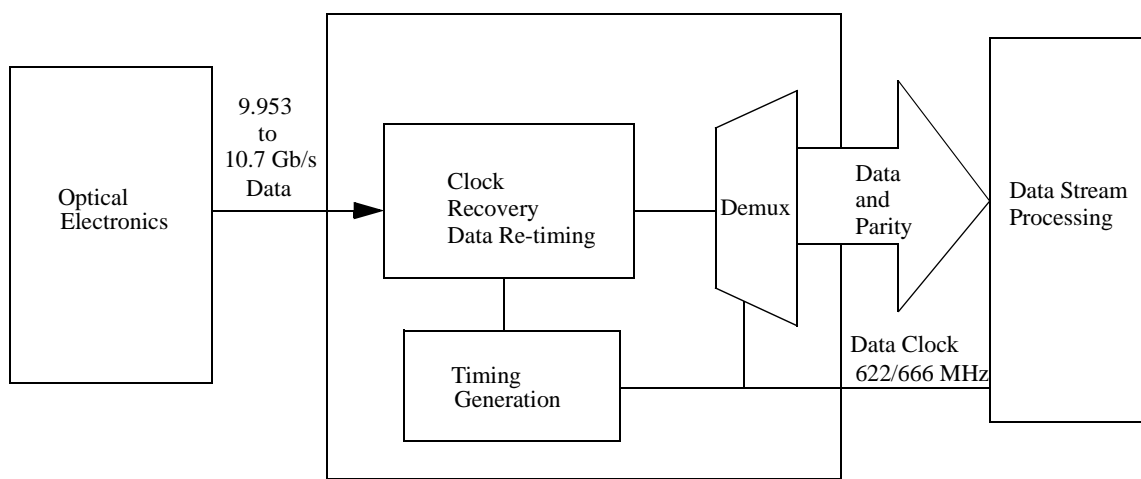
## Ordering Information

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

**VSC8172    XX**

Part Number        **(VSC8172)**
VSC8172 - 9.9/10.7 Gbit/sec SONET/SDH, 1:16 Demultiplexer with Clock Generator
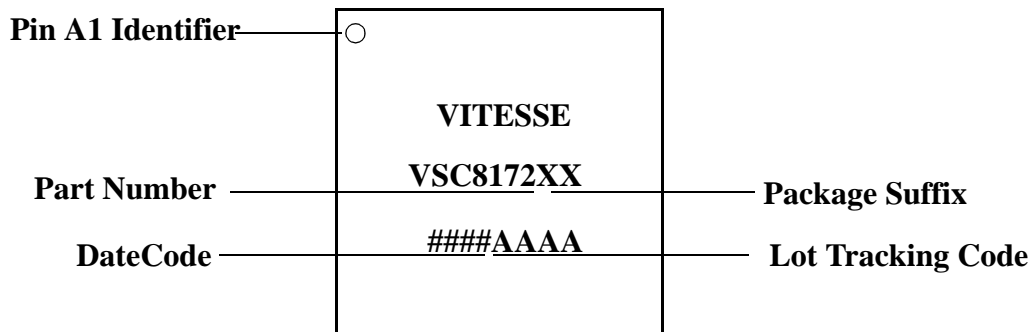
Package Suffix      **(XX)**
RK = 100 PQFP 14x14mm
UH = 96BGA 15x15mm

## Marking Information

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

**Figure 1: Package Marking Information**

Pin A1 Identifier

VITESSE

VSC8172XX

####AAAA

Part Number

DateCode

Package Suffix

Lot Tracking Code

## Notice

This document contains preliminary information about a new product in the preproduction phase of development. The information in this document is based on initial product characterization. Vitesse reserves the right to alter specifications, features, capabilities, functions, manufacturing release dates, and even general availability of the product at any time. The reader is cautioned to confirm this datasheet is current prior to using it for design.

## 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.