

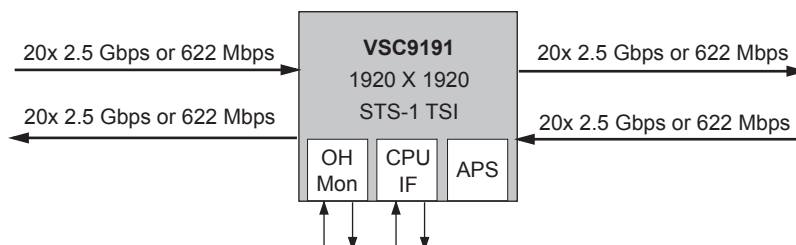
# VSC9191

VITESSE®

## 100 Gbps (40 x 40) SONET/SDH TSI Switch with Dual Rate I/O



### 100 Gbps TSI Switch (40 x 40 Links)



#### FEATURES:

- ▶ 40 x 40 TSI switch with non-blocking 1920 x 1920 STS-1 switch matrix with 100 Gbps aggregate bandwidth.
- ▶ Serial TSI-to-framer interface (TFI-5) operating at 2.488 Gbps with STS-12 622.08 Mbps support.
- ▶ Hitless reconfiguration of TSI mapping.
- ▶ Automatic protection switching at STS-1 level.
- ▶ Integrated clock synthesis with three reference frequencies: 78 MHz, 155 MHz, and 311 MHz.
- ▶ 66 MHz 16-bit microprocessor interface with four interface modes.
- ▶ One-step connection programming.
- ▶ Flexible split-frame domain support for folded fabrics.
- ▶ Overhead monitor port.
- ▶ 33 mm, 613-pin FCBGA package.
- ▶ Power dissipation < 6 W typical and < 8 W maximum.

#### BENEFITS:

- ▶ Convenient size for maximum flexibility in building SONET/SDH and Ethernet over SONET/SDH systems.
- ▶ Dual rate I/O for interfacing to greater number of port cards.
- ▶ Easy software management of switch-overs.
- ▶ High reliability and rapid response eliminates external hardware expense.
- ▶ Maximum flexibility to adapt to network system designs.
- ▶ Convenient interface and control.
- ▶ Easy software integration, rapid recovery, and fast switch times.
- ▶ Enables use as an interface device for larger fabrics.
- ▶ Convenient, enhanced quality monitoring and fault isolation.
- ▶ Convenient packaging for higher density and design flexibility.
- ▶ Low power for easy thermal design.

# VSC9191

## 100 Gbps (40 x 40) SONET/SDH TSI Switch with Dual Rate I/O

### GENERAL DESCRIPTION:

#### A Vitesse TSI Switch Family Member

The VSC9191 is a 40 x 40 Time Slot Interchange (TSI) switch supporting multirate OC-48/OC-12 data on every input and output. All inputs and outputs are differential serial signals running at 2.488 Gbps or 622 Mbps for TDM signals, and 2.125 Gbps or 2.488 Gbps for signals routed transparently.

The device contains a fully non-blocking STS-1 switching matrix surrounded by serial backplane interfaces that incorporate fully integrated clock recovery and synthesis, input equalization, output pre-emphasis, SONET/SDH compliant scrambling, framing, deskew, and alarms. Ports to drop and insert overhead bytes are included. A multimode CPU interface is used for device configuration and status monitoring.

#### Use Standalone or as a Building Block

The VSC9191 is designed for use in a central switch unit in smaller SONET/SDH systems. Alternatively, the VSC9191 can be used as a building block for larger 680 Gbps to 1.36 Tbps systems when used in conjunction with additional Vitesse TSIs such as the VSC9195 or VSC9295.

#### The Vitesse TSI Family of Switches

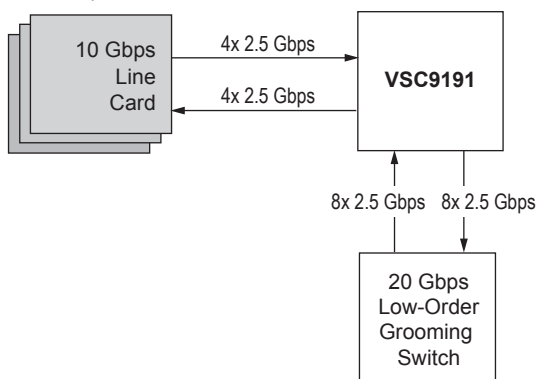
Vitesse offers a complete line of SONET/SDH TSI products for building systems of any size. Vitesse TSI products are designed for maximum flexibility in building and managing SONET and packet systems.

Members of the Vitesse TSI family include:

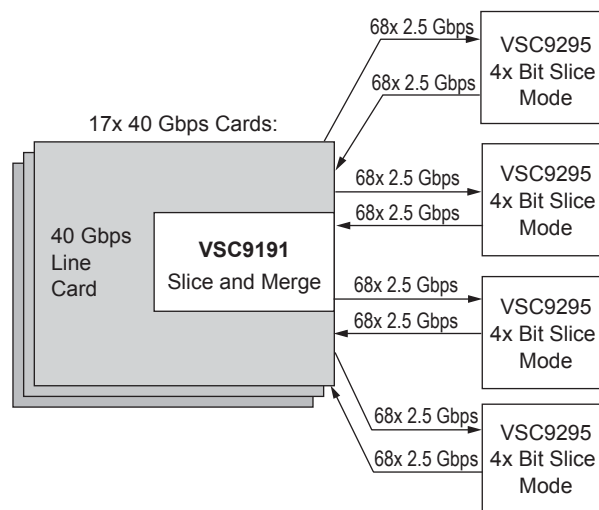
- ▶ VSC9295: 340 Gbps (136 x 136) TSI, 2.5 Gbps or 622 Mbps I/O
- ▶ VSC9292: 170 Gbps (68 x 68) TSI, 2.5 Gbps or 622 Mbps I/O
- ▶ VSC9185: 160 Gbps (40 x 40) TSI, 2.5 Gbps or 622 Mbps I/O
- ▶ VSC9191: 100 Gbps (40 x 40) TSI, 2.5 Gbps or 622 Mbps I/O
- ▶ VSC9190: 50 Gbps (20 x 20) TSI / 10 Gbps Backplane Transceiver, 2.5 Gbps or 622 Mbps I/O
- ▶ VSC9182: 40 Gbps (64 x 64) TSI, 622 Mbps I/O
- ▶ VSC9180: 2.5 Gbps SONET/SDH Backplane Transceiver

### 100 Gbps Central TSI Switch

8x 10 Gbps Cards:



### 680 Gbps Single-Stage Nonblocking Fabric



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