

VSC6134

VITESSE

Advanced 10 Gb/s Transport Processor with Enhanced FEC



BENEFITS:

- ▶ eFEC Allow for Maximum Optical Budget with Standards-based 7% Overhead
- ▶ G.709/G.975 Processor Allows for Standards-based FEC Operation
- ▶ Measured eFEC OSNR Coding Gain >9dB at BER of 1×10^{-13}
- ▶ Asynchronous Mapping Enables Network-bridging Function
- ▶ STS192 Performance Monitor/Generator Provide Bellcore Compliant Client Parametrics
- ▶ 10 Gb/s Ethernet PCS and MAC Performance Monitoring for Data Traffic

APPLICATIONS:

- ▶ Long-haul / Metro Transponder with STS192 / 10GbE / G.709 Performance Monitoring and G.975 or Enhanced FEC
- ▶ Long-haul / Metro Regenerator with G.709 Performance Monitoring and G.975 or Enhanced FEC
- ▶ Dual G.709 Regenerator
- ▶ Network to Network Bridge
- ▶ OTN Optical Crossconnect

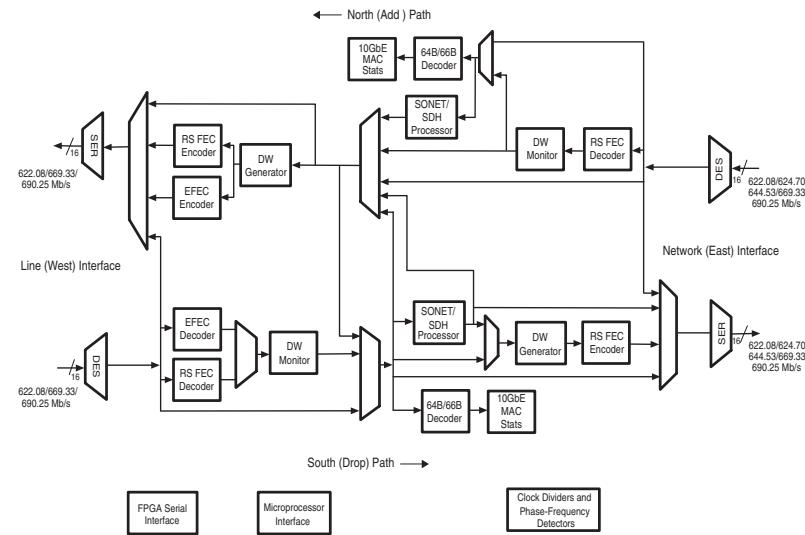
FEATURES:

- ▶ Two ITU-T G.709 Compliant Processors
- ▶ GR253 Compliant STS192 Section/Line Processor
- ▶ OTU Synchronous and Asynchronous Mapping
- ▶ 10 Gb/s Ethernet transport with RMON MIB per IEEE 802.3
- ▶ ITU-T G.975 Reed-Solomon Encoder/Decoder
- ▶ 16-bit Intel/Motorola Compatible Microprocessor Interface
- ▶ PRBS Generation/Detection
- ▶ Adaptation and Regenerator Functionality Supported
- ▶ JTAG Boundary Scan

SPECIFICATIONS:

- ▶ 2.5/3.3 Volt I/O -- 1.2 Volt Core
- ▶ Typical power 3.5 Watts
- ▶ 897 pin CBGA 35.0mm x 35.0mm
- ▶ Telecom Temp Range: 0 to 85 Degrees C°

BLOCK DIAGRAM:



GENERAL DESCRIPTION:



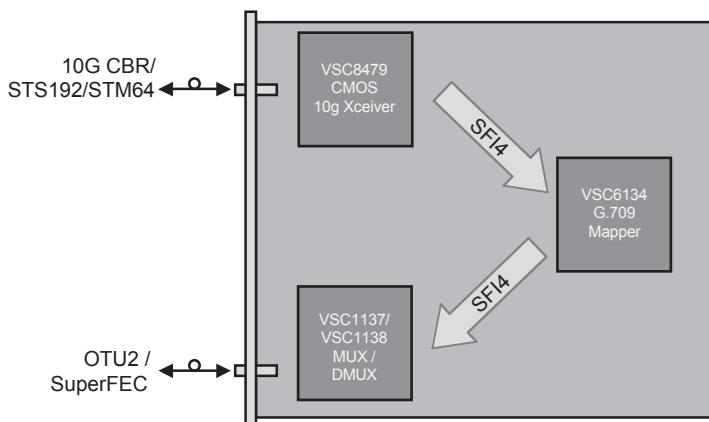
The VSC6134 is a bi-directional transport processor providing Forward Error Correction (FEC), SONET/SDH section and line processing, 10 Gb/s Ethernet performance monitoring and G.709 Digital Wrapper termination and generation for fiber optic transmission lines operating at approximately 10 Gb/s. As recommended by ITU-T G.975 and G.709, VSC6134 provides FEC based on a block oriented Reed-Solomon code RS(255,239) in addition to an optional proprietary FEC code that provides increased gain with the same overhead as RS(255,239). The required error correction symbols are transferred out of band increasing the transmission data rate by 7.1%.

The VSC6134 FEC device provides superior error correction of

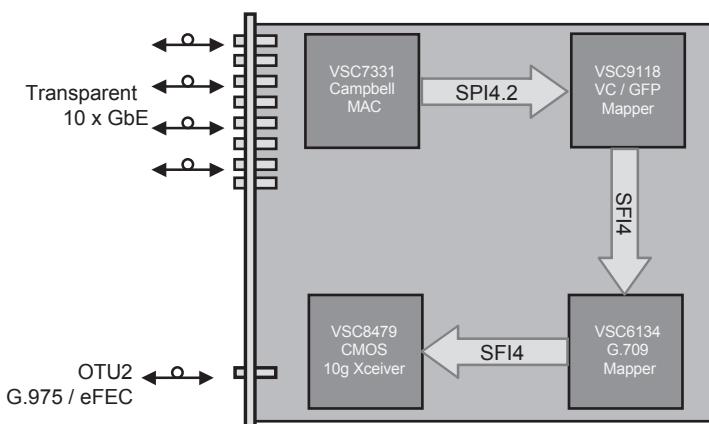
arbitrary data streams of approximately 10 Gb/s for applications in data and telecom networks. It is especially suitable for OC192c/STM- 64 SONET/SDH and 10Gbps Ethernet applications, as it supports monitoring and termination of section and line overhead as well as RMON.

As recommended by ITU-T G.709, in standard FEC mode, error coding is performed using a 16X interleaved block oriented Reed-Solomon RS (255,239) coder, resulting in a maximum correctable burst error length of 1024 bits. In enhanced FEC mode, a different code with iterative decoding is used to provide increased code gain. Due to the out of band transmission of the parity bits and framing/overhead information, the transmission rate is increased by a factor of 1.07 in both standard and enhanced FEC mode resulting in a 10.7 Gb/s transmission rate.

APPLICATION DIAGRAMS:



TDM Over G.709 Digital Wrapper



Data Over G.709 Digital Wrapper

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