PMC-SIERRA

SONET/SDH Wideband Cross-Connect

FEATURES

GENERAL

- Multi-purpose SONET/SDH VT/TU and SONET/SDH STS/STM cross-connect.
- With a memory-switch architecture, implements a strictly non-blocking switch that supports a VT/TU level fabric of up to 25 Gbit/s.
- Supports 10 high-speed Enhanced SONET Serial Interface (ESSI) CML links each independently configurable for STS-48/STM-16 at 2.488 Gbit/s or STS-12/STM-4 at 622.08 Mbit/s operation.
- Supports system frame synchronization using an external frame pulse or ESSI smart frame synchronization using the frame boundary of the receive links.
- Compensates for differences in frame boundary arrival times between ingress ports using FIFOs and device level software configurable delay registers.
- Each SONET STS-1 or SDH VC3/VC4-TUG3 may be independently configured as a single unit and/or as a

container of VT/TUs. The contents may be switched intact or switched as VT/TUs.

- Allows each SONET VT Group to be independently configured to carry VT1.5, VT2, VT3, or VT6 tributaries.
- Allows each SDH TUG2 to be independently configured to carry TU11, TU12, or TU2 tributaries.
- Provides a device latency of 5.62 (+/-0.17) μs for 2.488 Gbit/s and 6.21 (+/-0.67) μs for 622 Mbit/s links.

SONET/SDH OVERHEAD ACCESSIBILITY

• Supports extraction of the transport overhead (TOH) from the ingress ports (both high and low-speed) as well as the insertion of transport overhead into the egress ports via low bandwidth two-bit 77.76 MHz interfaces.

APS FEATURES

• Supports a hardware-based Automatic Protection Switching mechanism (MAPS) for centralized link protection control when operating with other PMC-Sierra devices such as the PM5369 TUPP 9953. Provides fully automatic protection switching for Class 1 protection services including 1+1 protection, UPSR, SNCP, and static mesh protection services.

PM5389 WSE 20

 Provides hardware assists for Class 2 protection services including 1:N protection, BLSR-2/4, MSSPRING-2/4, and dynamic mesh protection schemes.

I/O AND GENERAL

- All high-speed ingress and egress links are 1.2 V CML and are ELVDScompatible with programmable pre-emphasis on transmit, equalization on receive, and support for both AC and DC coupled interfaces.
- Each high-speed link supports SONET/SDH framed or unframed PRBS-23 or PRBS-7 generation and monitoring for off-line link verification.
- Configured, controlled, and monitored using a generic 32-bit microprocessor interface.
- Provides a standard 5-signal IEEE 1149.1 JTAG test port for boundary scan test purposes.



PMC-2031810 (R4)

SONET/SDH Wideband Cross-Connect

- Implemented in 1.2 V core and 2.5 V I/O 0.13 µm CMOS technology. Inputs are 3.3 V tolerant.
- Packaged in a 672-ball FCBGA top-hat, 27 mm x 27mm.

APPLICATIONS

- SONET/SDH Add-Drop Multiplexer (ADM).
- SONET/SDH Digital Cross-connect (DCC).
- Multi-service Provisioning Platform (MSPP).

TYPICAL APPLICATION

OC-192/STM-64 OPTICAL CROSS-CONNECT WITH 20G VT/TU CROSS-CONNECT SERVER CARD



Head Office: All product documentation is available on our web site at: PMC-2031810 (R4) To order documentation, PMC-Sierra, Inc. http://www.pmc-sierra.com send email to: © Copyright PMC-Sierra, Inc. 2004. All rights 8555 Baxter Place document@pmc-sierra.com For corporate information, reserved. Burnaby, B.C. V5A 4V7 or contact the head office, send email to: Canada Attn: Document Coordinator info@pmc-sierra.com For a complete list of PMC-Sierra's trademarks Tel: +1.604.415.6000 and registered trademarks, visit: Fax: +1.604.415.6200 http://www.pmc-sierra.com/legal.

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