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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## GENERAL DESCRIPTION

Tethys™ 4192 is optimized for SONET/SDH applications as a full-duplex two STS-192/STM-64 MUX/DEMUX with full framer functionality including pointer processing, and overhead termination; ideal for aggregation, ADM and DWDM applications. In the demultiplex ingress direction, Tethys™ 4192 accepts two STS-192/STM-64 signals in SFI-4.1 format. Tethys locates the incoming SONET/SDH frame, optionally descrambles the data, monitors the TOH and POH, and provides STS-1 level pointer processing. In addition, Tethys supports TOH and POH overhead transparency.

In the multiplex direction, from the system interface, Tethys™ 4192 accepts two STS-192/STM-64 or eight STS-48/STM-16 signals in either dual 4 x 2.5 Gbit/s or 8 serial 2.5 Gbit/s format. Further Tethys provides corresponding functionality in the DEMUX direction.

## APPLICATIONS

- ADM
- Metro Aggregation
- Digital Cross Connects
- Repeaters
- DWDM Equipment
- Test Equipment

## FEATURES

- Complies with OIF specifications SFI-4.1
- Differential CML 2.5 G I/O interface to system/backplane
- TFI-5 Support
- Processes SONET/SDH dual STS-192/STM-64 on the line side interface
- Processes SONET/SDH dual STS-192/STM-64 or eight STS-48/STM-16 on the system/client side serial 2.5 Gbit/s interface
- Provides line timing of all line and system side interfaces
- Processes SONET/SDH flexible concatenation streams of STS-2c, 3c, 4c, ... to 192c
- Supports auto-detection of concatenation streams STS-3c/STM-1, STS-12c/STM-4, STS-48c/STM-16 and STS-192c/STM-64
- Supports STS-1 level pointer processing of STS-192/STM-64 or STS-48/STM-16 streams

- Provides interfaces for dropping alarm and status information, and for forcing alarm conditions
- Supports system-side input deskew of up to  $\pm 250$  ns within a group of 4 x 2.5G GBps for each of two STS-192/STM-64
- Power dissipation of 15 W, depending on mode of operation
- Terminates and generates SONET section, line, and path layers
- Provides TOH and POH transparency
- Provides monitoring of POH bytes B3 and N1/Z5
- Provides B2 SF/SD capability for Poisson and bursty error distribution
- Provides full TOH/POH add/drop
- Provides STS-1 level POH add/drop
- Supports more than  $\pm 746$  UI programmable output skew on STS-192/STM-64 or STS-48/STM-16 out-put links to external cross-connects
- For diagnostic purposes, Tethys provides PRBS generator/checker and loop backs
- Provides B1, B2, H1 and H2 bit error generation for both receive and transmit direction diagnostics
- Provides 1 second performance monitors
- Provides B1, B2, H1 and H2 bit error generation for both receive and transmit direction diagnostics
- Provides 1 second performance monitors
- 0.13 micron process, 1.2 V core, 3.3 V I/O
- Motorola 32-bit synchronous microprocessor inter-face for configuration, control, and status monitoring
- Complies with GR-253, GR-1377, ITU-T G.707, and ANSI T1.105
- Provides a standard 5-signal IEEE 1149.1 JTAG test port for boundary scan board test purposes

## SPECIFICATIONS

- OIF SFI-4.1
- OIF TFI-5

## STANDARDS

- ANSI T1.105-2000-193R2 (DRAFT)
- ANSI T1.105.05-1994
- T1X1.3/93-005RI -1993 - preliminary
- GR-253-CORE Sept. 2000
- ITU-T G.707 10/2000

**ORDERING INFORMATION**

| PART NUMBER | PACKAGE   | OPERATING TEMPERATURE RANGE |
|-------------|-----------|-----------------------------|
| PEB1756E    | 1397 CBGA | -40°C to +85°C              |

**FIGURE 1. PEB1757E APPLICATION DIAGRAM**

