Tethys™ II SONET/SDH Multi-rate Framers OC-3/STM-1 to OC-192/ STM-64 Multi-Rate Solutions

PEB2756AE/57AE

Semiconductor Solutions for High Speed Communications and Fiber Optic Applications

Features

- Differential CML 2.5 Gbps I/O interface to optics
- Differential CML 2.5 Gbps I/O interface to system/backplane
- On-chip SONET/SDH compliant SERDES and CDRs supporting 2.5 Gbps, 622 Mbps or 155 Mbps
- OC-192/STM-64 via SFI-4.2 or SFI-4.1
- SONET/SDH rates of OC-3/STM-1, OC-12/ STM-4, OC-48/STM-16 or OC-192/STM-64
- Processes SONET/SDH flexible concatenation streams of STS 2c, 3c, 4c, ... to 48c or 192c
- Auto-detection of concatenation streams STS-3c/STM-1, STS-2c/STM-4, STS-48c/STM-16 and STS-192c/STM-64
- STS-1 level pointer processing
- Flexible TOH and POH handling and processing
- TFI-5 compliant system interface

The Tethys™ II SONET/SDH Multi-Rate Framers provide, in one chip, functions that are critical for next-generation optical networking equipment in such applications as add/drop multiplexers (ADMs) and digital cross-connect switches (DXCs). They enable manufacturers to increase line card port count and capacity while decreasing per-port cost and power, and allow a single line card design to be configured for multiple data rates by simply changing the optical modules attached to it. With the highest level of integration of functionality in their class, the Tethys™ II Multi-Rate Framers enable equipment manufacturers to consolidate not only the number of devices on each line card but also multiple line cards as well. This results in a major cost reduction for the equipment manufacturer.

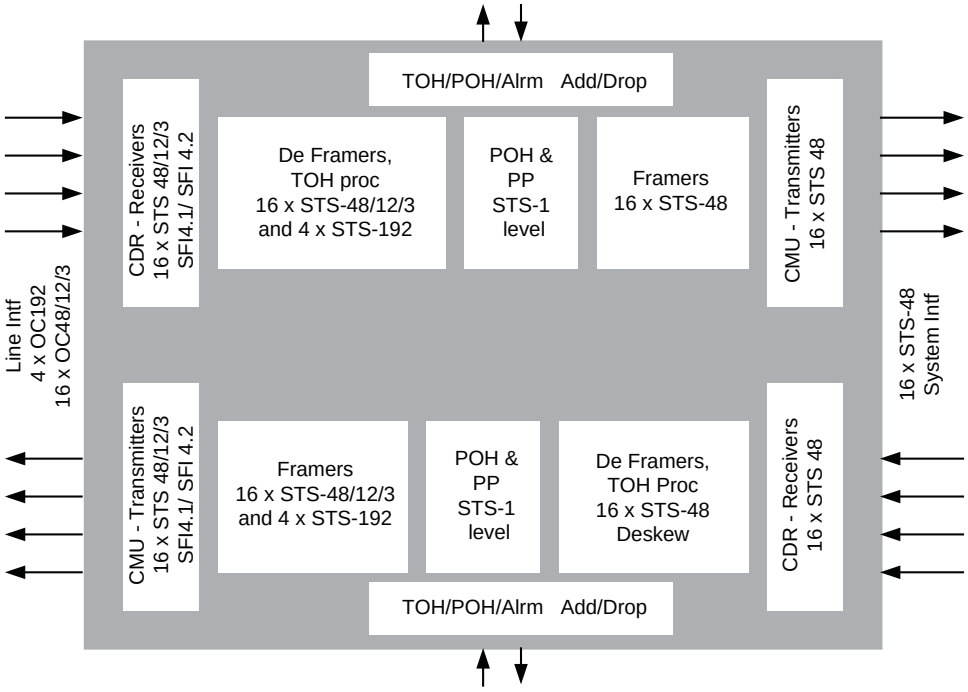
Tethys™ II (PEB2757AE) is optimized for SONET/SDH applications as a full-duplex four STS-192/STM-64 or a mix of sixteen STS-48/STM-16 or sixteen STS-12/STM-4 and STS-3/STM-1 MUX/DEMUX with full framer functionality including pointer processing, and overhead termination; ideal for aggregation, ADM and DWDM applications. In the de-multiplex ingress direction, Tethys™ II accepts either a mix of sixteen STS-48/ STM-16, or sixteen STS-12/STM-4 and STS-3/ STM-1 signals in serial 2.5 Gbit/s or serial 622 Mbit/s or serial 155 Mbit/s format. Tethys™ II 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™ II supports TOH and POH overhead transparency.

Tethys™ II (PEB2756AE) is optimized for SONET/SDH applications as a full-duplex four 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 de-multiplex ingress direction, Tethys™ II accepts up to four STS-192/STM-64 signals in SFI-4.2/SFI-4.1 format. Tethys™ II locates the incoming SONET/SDH frame, optionally de-scrambles the data, monitors the TOH and POH, and provides STS-1 level pointer processing. In addition, Tethys™ II supports TOH and POH overhead transparency.

Tethys™ II SONET/SDH Multi-rate Framers OC-3/STM-1 to OC-192/ STM-64 Multi-Rate Solutions

PEB2756AE/57AE

Block Diagram



Features

- Power dissipation of 23 W, depending on mode of operation; Terminates and generates SONET section, line and path layers
- Provides TOH and POH transparency and monitoring of POH bytes B3 and N1/Z5
- Provides B2 SF/SD capability for Poisson and bursty error distribution
- Provides full TOH/POH and STS-1 level POH add/drop
- Supports more than ± 746 UI programmable output skew on STS-192/STM-64 or STS-48/STM-16 output links to external cross-connects
- For diagnostic purposes, Tethys™ II provides PRBS generator/ checker and loop backs

Applications

- Add-Drop Multiplexers
- Metro Aggregation
- Digital Cross Connects
- Repeaters
- DWDM Equipment
- Test Equipment

Ordering Information

Part	Description	Operating Temp. Range
PEB2756AE	1397-CBGA	-40ºC to +85ºC
PEB2757AE	1397-CBGA	-40ºC to +85ºC

