

## TRIPLE SONET/SDH PAYLOAD PROCESSOR

## FEATURES

- Integrates three SONET STS-1 or SDH AU-3 payload processors in a single monolithic device
- Provides payload processing for three independent STS-1 streams or one STS-3 or STS-3c stream
- Provides support for payload processing of higher rate concatenated streams such as STS-12c
- Processes the STS payload pointer(s) to frame align the transport overhead(s)
- Performs frequency justification on the STS stream(s) by modifying the outgoing payload pointer(s)
- Detects loss of pointer (LOP) in the STS-1/3/3c stream(s)
- Inserts STS-path AIS in the STS-1/3/3c stream(s)
- Has the capability to corrupt STS payload pointer(s) for diagnostic purposes

- Low-power CMOS technology
- 84-pin PLCC package

## DESCRIPTION

The PM5323 TSPP Triple SONET STS Payload Processor is a monolithic integrated circuit that integrates three independent SONET STS-1 or SDH AU-3 payload processors.

The TSPP processes the payload pointers contained in three independent bit-serial STS-1 streams, one byte-serial STS-3 stream, or one byte-serial STS-3c stream. Four TSPPs may be connected to provide payload processing for a byte-serial STS-12c stream.

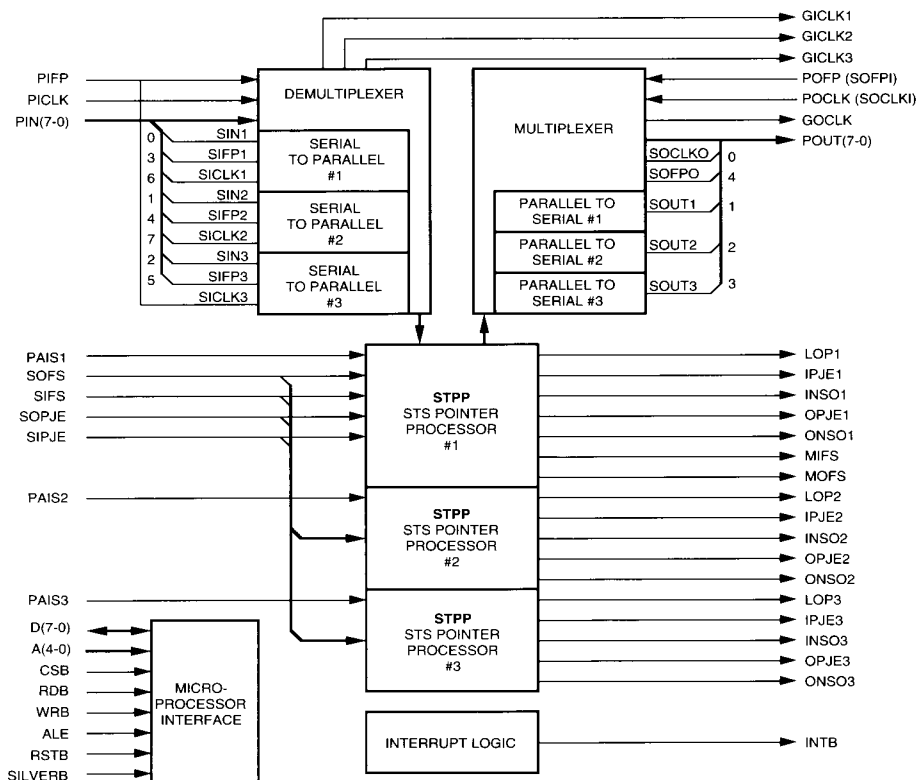
The TSPP is used in applications requiring STS frame alignment and frequency justification. Each payload processor contains an STS pointer interpreter, an STS pointer generator and an integral FIFO buffer for payload alignment.

The incoming STS payload pointer is interpreted to locate the start of the synchronous payload envelope (SPE). The SPE is passed through the FIFO, and a new pointer value is generated based on the offset between the outgoing STS frame alignment, and the start of the SPE. Pointer adjustments are inserted in the outgoing STS stream as required to keep the FIFO from overflowing or underflowing.

Loss of pointer (LOP) is detected as part of the pointer interpretation process. STS path AIS is passed transparently through the payload processor, or may be inserted in the outgoing stream(s). The outgoing payload pointer value(s) may be corrupted for diagnostic purposes.

The TSPP is configured, controlled, and monitored using registers that are accessed via a generic 8-bit microprocessor interface.

## BLOCK DIAGRAM



## APPLICATIONS

- Fiber Optic Multiplexers
- Terminal Multiplexers
- Add/Drop Multiplexers (ADM)
- Digital Access and Cross-Connect Systems (DACS)
- Test Equipment

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