8-Channel OC-3c ATM and POS Physical Layer Device

FEATURES

- Single chip 8-channel ATM and POS User Network Interface operating at 155 Mbit/s with on-chip clock and data recovery and clock synthesis for direct connection to optical modules.
- Implements the ATM Forum User Network Interface Specification and the ATM physical layer for Broadband ISDN according to ITU Recommendation I.432.
- Implements the Point-to-Point Protocol (PPP) over SONET/SDH specification according to RFC 2615(1619)/1662 of the PPP Working Group of the Internet Engineering Task Force (IETF).
- Processes eight bit-serial 155 Mbit/s STS-3c (STM-1) data streams with on-chip clock and data recovery and clock synthesis.
- Complies with Bellcore GR-253-CORE (2000 issue) jitter tolerance, jitter transfer (1995 issue), and intrinsic jitter criteria.
- Each channel provides termination for SONET Section, Line, and Path overhead or SDH Regenerator Section, Multiplexer Section, and High Order Path overhead.

- Provides UTOPIA Level 3 32-bit wide System Interface (clocked up to 104 MHz) with parity support for ATM applications.
- Provides SATURN® POS-PHY™ Level 3 32-bit System Interface (clocked up to 104 MHz) for Packet over SONET (POS), or ATM applications.
- Supports line loopback from the line side receive stream to the transmit stream and diagnostic loopback from the line side transmit stream to the line side receive stream interface.
- Provides support for automatic protection switching including a bi-directional 2-bit PECL 622 MHz port for external APS with mate device.
- Built-in APS cross-connect for internal and external 1+1 and 1:n protection switching.
- Provides a standard five signal IEEE 1149.1 JTAG test port for boundary scan board test purposes.
- Provides a generic 8-bit microprocessor bus interface for configuration, control, and status monitoring.

- Low power 2.5/3.3 V CMOS core logic with 5V TTL compatible digital inputs and digital outputs. PECL inputs and outputs are 3.3 V and 5 V compatible.
- Industrial temperature range (-40 °C to +85 °C).
- 520-pin SBGA package.
- Software compatible with the PM5358 S/UNI 4x622.
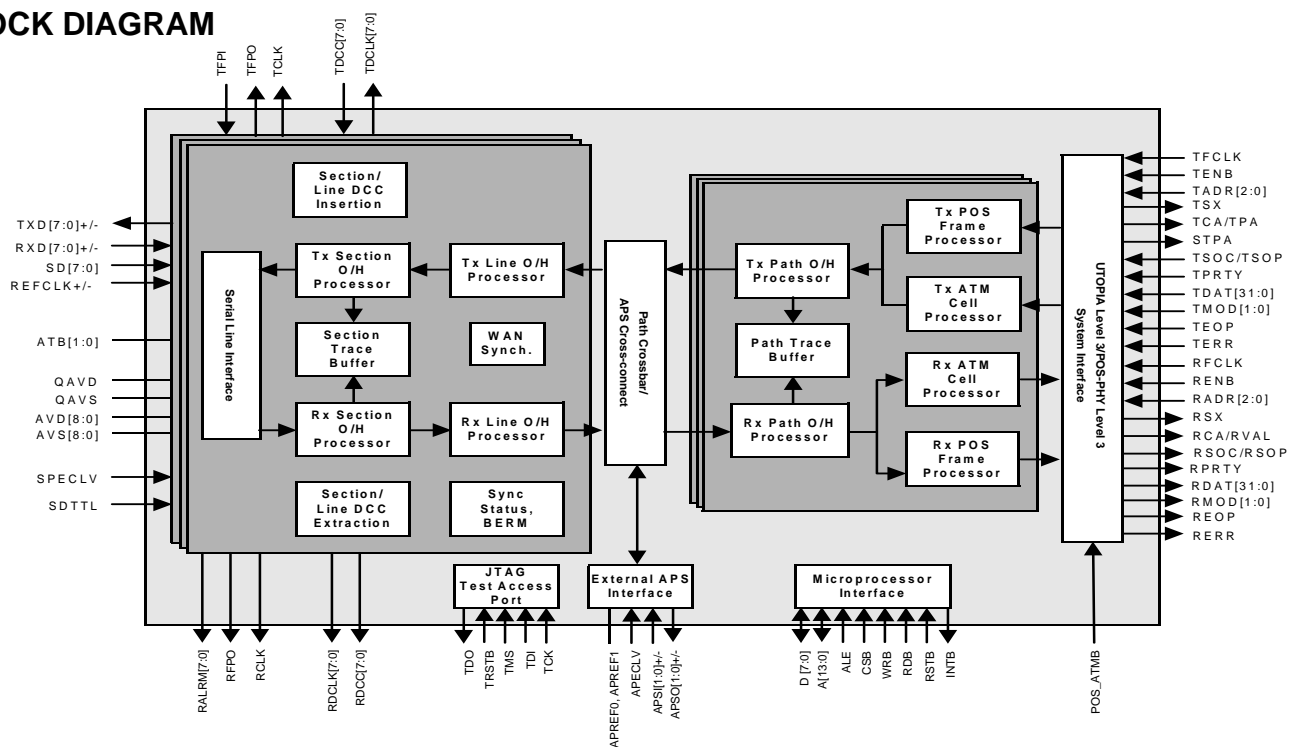- Pin compatible with PM5382 S/UNI 16x155.

DEVICE INTERNETWORKING

Other PMC-Sierra devices that implement the POS-PHY Level 3 interface include:
- S/UNI 12xJET
- S/UNI 4x622
- S/UNI 2488
- S/UNI 2xGE
- S/UNI MACH48
- S/UNI ATLAS 3200
- S/UNI 16x155

APPLICATIONS

- WAN and Edge ATM switches.
- LAN switches and hubs.
- Packet switches and hubs.
- Routers and Layer 3 Switches.
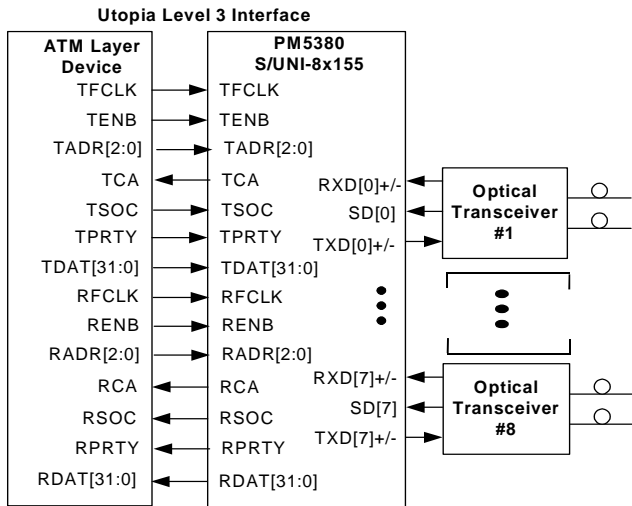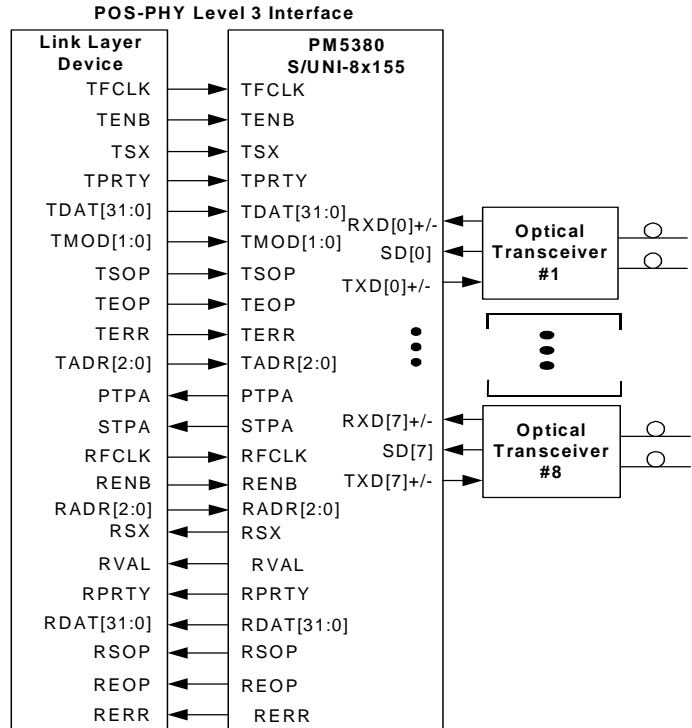- Network interface cards and uplinks.

BLOCK DIAGRAM

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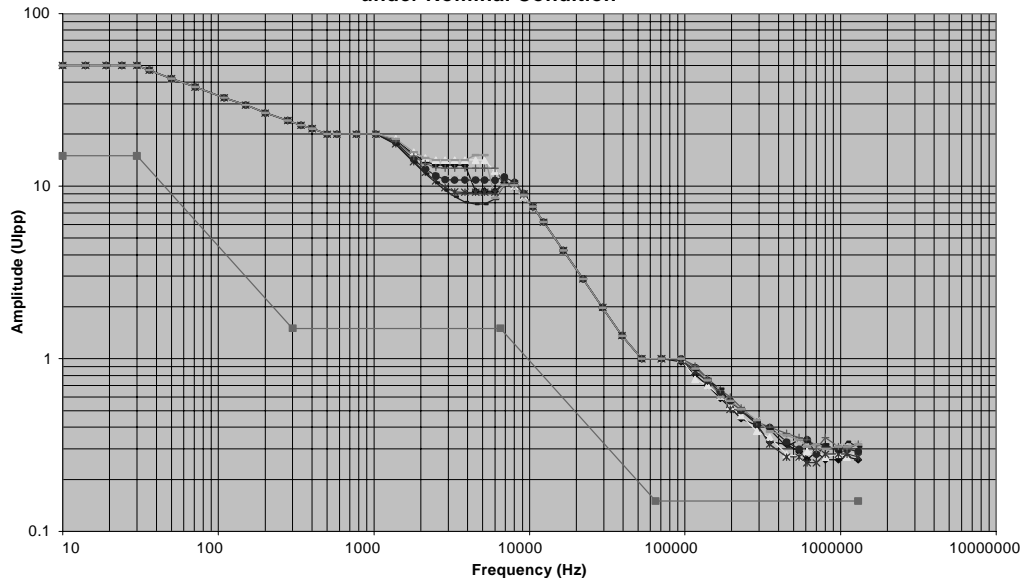## TYPICAL APPLICATIONS

STS-3C/STM-1 ATM SWITCH PORT

STS-3C/STM-1 PACKET-OVER-SONET/SDH

S/UNI-8X155 JITTER TOLERANCE PLOT

Framed Jitter Tolerance (Synchronous, With OA) under Nominal Condition

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