GEMINAX PRO ULP

ADSL2+ Central Office Chip Set
PEF 55016 / PEF 55304

GEMINAX PRO ULP (Ultra Low Power) is the latest member of Infineon's GEMINAX ADSL/2/2+ product family. Setting new industry benchmarks with respect to port density and power consumption GEMINAX PRO ULP features a 16-channel data pump, GEMINAX D-16 PRO, and a unique integrated analog front end (AFE) and line driver, the AL4. It supports data rates up to 24 Mbit/s targeting CO, DLC, DSLAM and Multi-Service-Access applications.

GEMINAX PRO ULP enables Broadband Access equipment vendors to design ultra dense, ultra low power, lowest cost line cards that feature industry leading performance and interoperability with lowest BOM cost. This is realized by the revolutionary Class D line driver technology that reduces the power consumption of traditional linear line drivers by 35%. GEMINAX PRO ULP's two-chip architecture provides a purely digital interface between both devices, eliminating sensitive analog signals in layout critical areas of application boards. Per-channel foot print is further reduced by up to 30% making the GEMINAX PRO ULP the most cost efficient ADSL/2/2+ solution available.

Together with Infineon's VINETIC Codec/SLIC solution, GEMINAX PRO ULP facilitates migration towards integrated Voice/Data (IVD) solutions.

Applications

- Multi-standard ADSL/2/2+ and IVD line cards for Central Office DSLAM, DLC and Remote Terminals

Features

- 16-channel ADSL / ADSL2 / ADSL2+ data-pump
- 4-channel ADSL / ADSL2 / ADSL2+ integrated AFE and Line Driver
- Software upgradeable
- On-chip ATM TC Layer
- Support of Dual Latency
- Pseudo-STM mode via UTOPIA
- High performance 14-bit AD and DA converter
- On-chip tuned analog filter
- Power down and sleep mode support
- All memory on-chip, no external memory required
- CVoDSL support of 4 voice channels per ADSL port
- Integrated hybrid and passive components
- Automatic gain control (-2 dB, +38 dB)
- Differential analog output
- High speed serial data interface between AL4 and GEMINAX D16 PRO ULP
- Extended Temperature range -40 to +85°C

Interfaces

- UTOPIA level 2 interface, 8 bit or 16 bit / up to 50 MHz, back-to-back cell transmission
- PCM Highway interface
- JTAG Interface
- HDLC-based Serial Control Interface (SCI) for serial communication with other devices
- Parallel host interface for connection to µC

Power Requirements

- < 600 mW power dissipation ADSL mode
- < 640 mW power dissipation in ADSL2+ mode
- Power supplies:
  - DFE 3.3 V 1.5 V
  - AFE 3.3 V 1.5 V
  - LD 15 V

Supported Standards

- ADSL2+ (G992.5), ADSL2 (G992.3), ADSL full-rate (G992.1), ADSL-lite (G992.2), T1.413
- Mixed mode operation supported
- DELT, G.SELT and READSL
- Optimized for TR-67 performance requirements
- Inband Management
- Enhanced framing parameters supported

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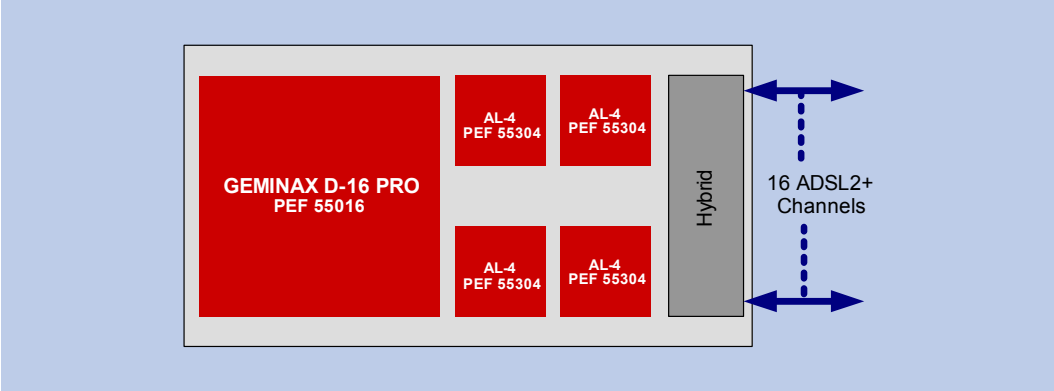
COMMUNICATION

Infineon technologies

Never stop thinking.

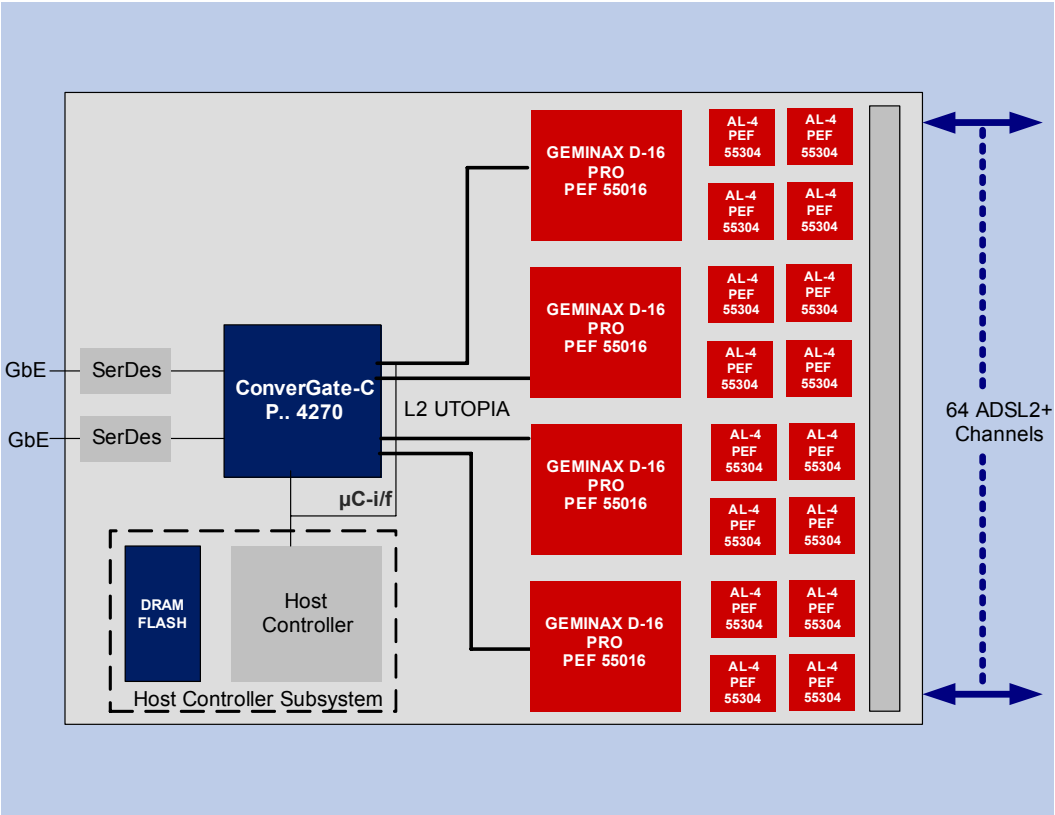


GEMINAX PRO ULP

16-Channel ADSL2+ PHY

Product Summary

Type	Sales Code	Description	Package
GEMINAX-D16 PRO	PEF 55016	16-channel ADSL/2/2+ data pump	PG-LBGA-484
GEMINAX-AL4 PRO	PEF 55304	4-channel ADSL/2/2+ integrated AFE and line driver	PG-LBGA-192-3



Application Example

64-Channel Line Card for IP-DSLAMs

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