Infineon's VDSL5100 standard VDSL single port chip set provides highly flexible solutions for Ethernet and ATM applications over VDSL.

Access system designers' requirements are addressed by providing flexible band allocation plans and PSDs. VDSL5100 also supports Band 0 to extend VDSL services up to 4 km (13,200 ft.) over ADSL frequencies.

Infineon's VDSL5100 chip set uses Frequency Division Multiplexing (FDM) and Quadrature Amplitude Modulation (QAM) to provide simple, low-cost, low-power, and very robust operation. Infineon's VDSL5100 is designed to coexist with voice, ISDN, and other xDSL technologies in the same bundle.

With Infineon's software configurable VDSL5100 chip set, system vendors can use a single design to support a wide variety of transport protocols.

The VDSL5100 is ideal for universal DSLAM linecards and CPE designs.

Applications

- Customer Premises Equipment (CPE)
- DSLAM and residential gateways
- Ethernet and ATM over VDSL for last mile access solutions
- Fiber and broadband wireless extension over copper wire
- Multiple Dwelling/Tenant Units (MDU/MTU) networking
- LAN extentions up to 1,200 m (4,000 ft.)
- Upgrades of HDSL, SDSL and ADSL systems

Features

- Ethernet and ATM single port chip set
- Highly integrated, standard compliant, VDSL QAM transport modem
- Low power consumption
- T1E1.4, ETSI, and ITU-T compliant high speed VDSL PHY applications
- Ethernet transfer over AAL5 and RFC 2684

- Frequency Division Duplexing (FDD)
- 2, 3, or 4-band operation, including Band 0
- Dual latency support with built-in interleaver memory
- Power Back Off
- Embedded crystal oscillator (DCXO) for timing recovery
- Spectral allocation allows noise free operation with xDSL, ISDN, TCM-ISDN and digital PBX
- Versatile and completely flexible band allocations
- Backward compatibility with Infineon's legacy chip sets

Performance

- Asymmetric DS/US data rates of 70/40 Mbit/s and Symmetric data rates up to 50 Mbit/s
- Asymmetric DS/US data rates of 4/0.6 Mbit/s up to 4 km (13,200 ft.)

Interfaces

- MII/SMII/SS-SMII/RMII compliant with the 802.3 Ethernet specification
- ATM UTOPIA Level 1 and Level 2, 8-bit, 33 MHz
- 32-channel Pulse Code Modulation (PCM), maximum 2 Mbit/s over the fast channel
- MII serial management interface to access all internal registers
- External parallel host port
- Serial UART interface to a standard serial terminal
- EEPROM interface via IIC
- IEEE 1149.1 JTAG test port

Power Requirements

- 3.3 V and 1.2 V for the PEF 22818
- 1.8 V for the PEF 22815
- ±5 V for the PEF 22810

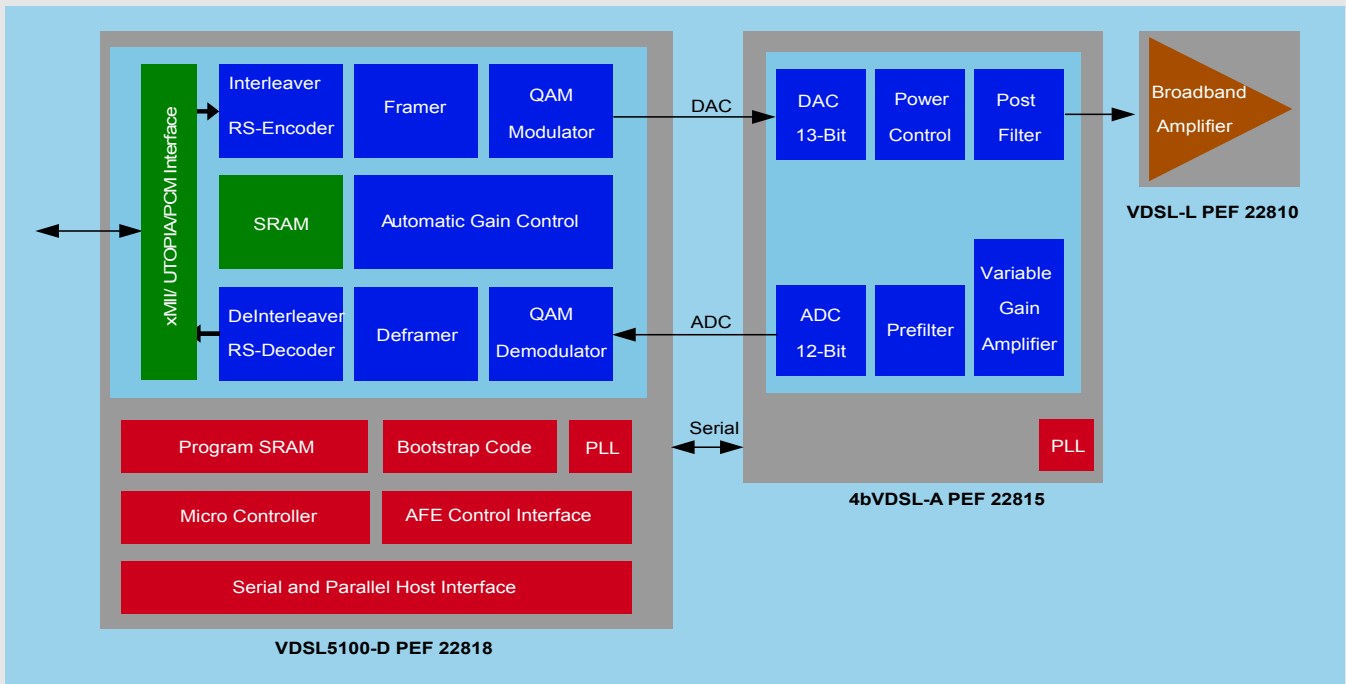# V D S L 5 1 0 0

5th Generation Single-port Standard VDSL Chip Set

VDSL5100-D, PEF 22818

4bVDSL-A, PEF 22815

VDSL-L, PEF 22810

Infineon technologies

N e v e r   s t o p   t h i n k i n g .

VDSL5100 Block Diagram

Ordering Information

Design Tools

Product Name	Sales Code	Description
VDSL5100-E Ethernet over VDSL Evaluation/Demo Kit	VDSL5100-E	The VDSL5100-E Evaluation/Demo Kit includes two identical boards and the VDSL5100-E software package.
VDSL5100-A ATM over VDSL Evaluation/Demo Kit	VDSL5100-A	The VDSL5100-A Evaluation/Demo Kit includes two identical boards plus a VDSL5100-E board to demonstrate the SAR application, and the VDSL5100-A software package.

Chip Set

Product Name	Sales Code	Package	Description
VDSL5100-D	PEF 22818 E	P-TQFP-144-10	Single-port Digital Transceiver
4bVDSL-A	PEF 22815 F	P-TQFP-64	4-band Analog Front End
VDSL-L	PEF 22810 T	P-DSO-8	VDSL Line Driver
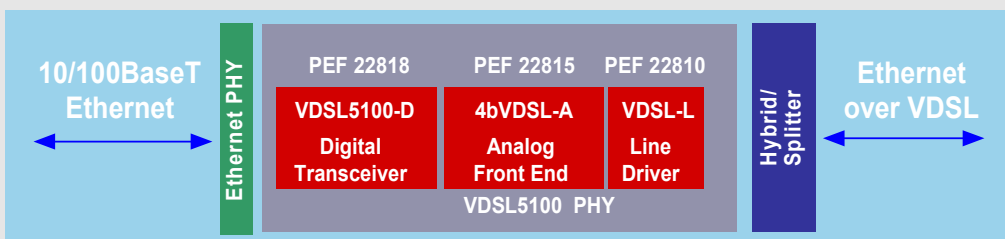
Ethernet over VDSL Linecard Application Example

Attention please!

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Infineon Technologies is an approved CECC manufacturer.

Information

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office in Germany or our Infineon Technologies Representatives worldwide.

Warnings

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

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