

10BaseS™ is an innovative technology offering the simplicity of Ethernet coupled with the high performance of VDSL. Utilizing 10BaseS, a system delivers 10 Mbit/s, full duplex Ethernet over existing copper wire infrastructure up to a distance of 4000 ft / 1200 m. It simultaneously supports high speed DATA transmission with POTS, ISDN or PBX signaling, without disruption.

Ethernet MAC and PHY functionality are integrated into Infineon's 10BaseS chipset, achieving direct connectivity with standard Ethernet physical layer and switching devices. Its VDSL technology uses frequency duplexing and QAM modulation to provide robust operation. Its spectral allocation allows noise-free coexistence with other xDSL technologies in the same bundle.

10BaseS is the best solution for distribution of broadband services in MDU/MTU and hospitality markets and the most suitable solution for broadband LAN extension applications.



Applications

- Multiple Dwelling/Tenant Units (MDU/MTU) networking
- Hospitality networking
- Multi-building campus networking
- High speed industrial environment network
- Fiber, broadband wireless and cable LAN extension

Features

- Symmetric 10 or 100 Mbit/s Ethernet speed at full duplex
- Compatible with IEEE 802.3 Ethernet MII, RMII, SMII and 7 wire interfaces
- Configurable as standard Ethernet PHY for use in switch or NIC applications
- MII Serial Management Interface supports full access to all internal registers and control of both local and remote devices

- No need for glue logic. Standard interfaces provide direct connection to Ethernet MAC and PHY devices
- Address filtering, self-learning and aging up to 32 addresses
- Internal buffering, back pressure and IEEE 802.3x flow control capabilities
- Configurable as Ethernet MAC for direct operation with standard Ethernet PHY in Customer Premises Equipment (CPE)
- Supports Ethernet SNMP MIB counters
- Quadrature Amplitude Modulation (QAM)
- Frequency division duplexing
- Symmetrical/asymmetrical line rates from below 1 Mbit/s up to 25 Mbit/s
- Delivers symmetrical 10 Mbit/s payload up to a distance of 4000 ft / 1200 m
- Robust operation handles micro-interruptions, impulse noise and severely distorted lines

- Spectral allocation allows noise-free operation with xDSL, ISDN (2B1Q/4B3T), "Smartphone" digital PBX devices
- Transmit Notch filter, Scrambler, Reed-Solomon Forward Error Correction (FEC) and Convolutional Interleaver with internal SRAM
- Link watchdog combined with robust link configuration ensures link establishment
- Transmit power management
- Low power consumption - 1.5 W including line driver
- Power boost for extended reach
- Power down mode with fast warm start capability (< 100 ms)
- Digitally Controlled Crystal Oscillator (DCXO) for timing recovery
- Embedded microcontroller for stand-alone operation
- JTAG for chip level and board level testing

10BaseS™

Ethernet over VDSL Chipset

PEF 22810 (VDSL-L)

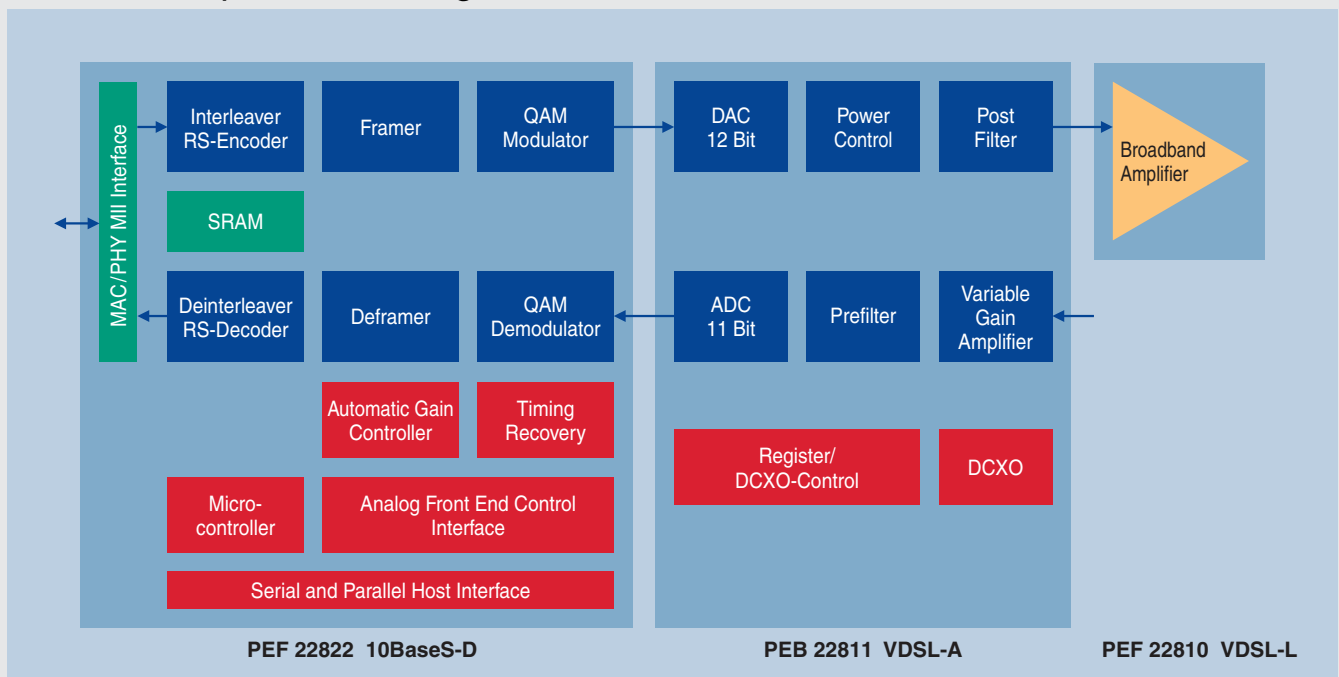
PEB 22811 (VDSL-A)

PEF 22822 (10BaseS-D)



Never stop thinking.

10BaseS Chipset Block Diagram



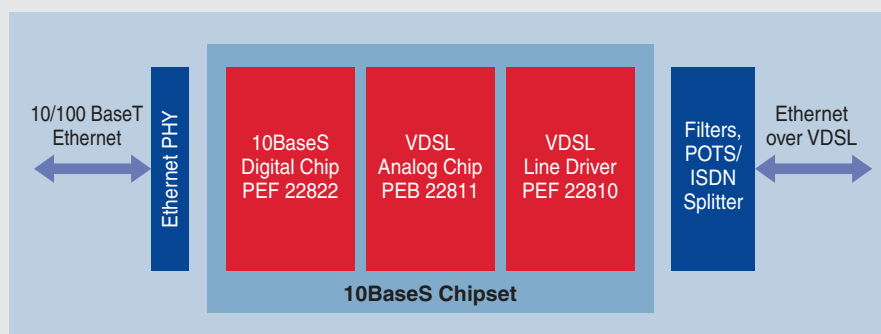
Ordering Information

Design Tools

Product Name	Sales Code	Package	Description
10BaseS Demo Kit	10BaseS 22822	Two Boards	10BaseS LT and NT Evaluation Boards
10BaseS Modem Kit	SV2100-52-B2	Two Boards	10BaseS LT and NT Demonstration Boards

Chipset

Product Name	Sales Code	Package	Description
VDSL-L	PEF 22810 T V2.1	P-DSO-8	VDSL Line Driver Chip
VDSL-A	PEB 22811 H V1.3	P-MQFP-64	VDSL Analog Chip
10BaseS-D	PEF 22822 F V2.2	P-TQFP-144	Digital Chip
10BaseS-D	PEF 22822 EL V2.2	P-LFBGA-176	Digital Chip



10BaseS CPE Application Example

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