11.3 Gbps 12 × 12 Digital Crosspoint

Data Sheet

ADN4612

FEATURES

- DC to 11.3 Gbps per port NRZ data rate
- Multitime constant, programmable receive equalization
  - Compensates 25 inches of FR408 at 10.3125 Gbps
  - Compensates 15 inches of FR408 at 11.3 Gbps
- 6-tap programmable transmit feedforward equalization (FFE)
  - Compensates 15 inches of FR408 at 10.3125 Gbps
  - Compensate 10 inches of FR408 at 11.3 Gbps
- Low power
  - 150 mW per channel at 2.5 V (outputs enabled)
- 12 × 12, fully differential, nonblocking array
- Double rank connection programming
- 2-pins, selectable connection maps
- Per lane loss-of-signal detection
- Flexible output termination supply range (1.8 V to 3.3 V)
- DC- or ac-coupled differential CML inputs and outputs
- Programmable CML output levels
- Load from EPROM for automatic power-on ready operation
- Per lane input and output P/N pair inversion for routing ease
- 50 Ω on-chip input/output termination
- Supports 64-bit/66-bit, scrambled or not coded NRZ data up to 11.3 Gbps
- Serial (I^2C or SPI slave) control interface
- 88-lead LFCSP, 12 mm × 12mm, Pb-free package
- −40°C to +85°C operating temperature range

FUNCTIONAL BLOCK DIAGRAM

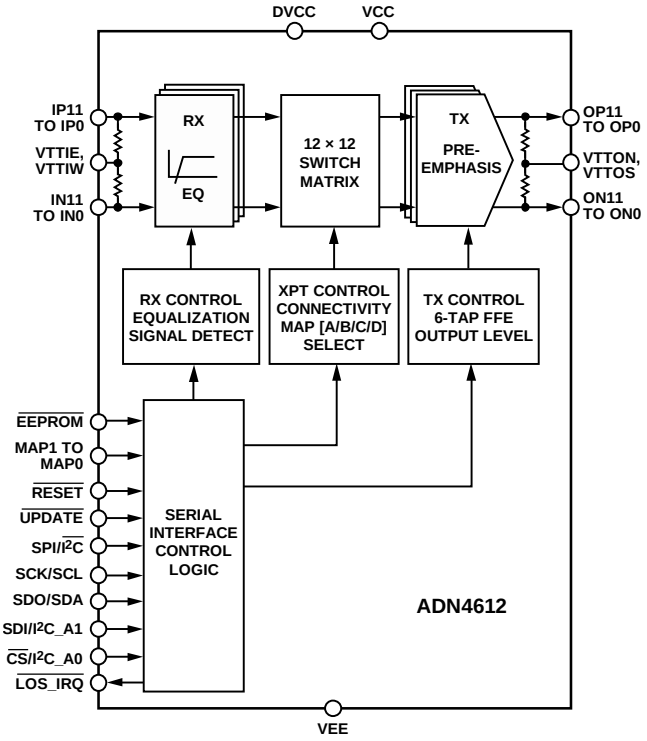


Figure 1.

APPLICATIONS

- Fiber optic network switching
- 10 Gigabit Ethernet over backplane 10GBASE-KR 802.3ap
- XLAUI/CAUI (802.3ba)
- SONET OC-192/STM-64x
- 1×, 2×, 4×, 8×, and 10× Fibre channel

GENERAL DESCRIPTION

The ADN4612 is a 12 × 12 asynchronous, protocol agnostic, digital crosspoint switch with 12 differential PECL-/CML-compatible inputs and 12 differential CML outputs.

The ADN4612 is optimized for nonreturn-to-zero (NRZ) signaling with data rates of up to 11.3 Gbps per port. Each port offers programmable input equalization, loss-of-signal detection, programmable output swing, and output preemphasis/deemphasis.

The ADN4612 nonblocking switch core implements a 12 × 12 crossbar and supports independent channel switching through the serial control interface. The ADN4612 has low latency and very low channel-to-channel skew.

The ADN4612 is packaged in an 88-lead LFCSP package and operates from −40°C to +85°C.

For more information about ADN4612, contact Analog Devices, Inc., at xstream@analog.com.

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