ANALOG DEVICES

Xstream™
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 (I²C or SPI slave) control interface
88-lead LFCSP, 12 mm × 12mm, Pb-free package
−40°C to +85°C operating temperature range

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

FUNCTIONAL BLOCK DIAGRAM

Figure 1.

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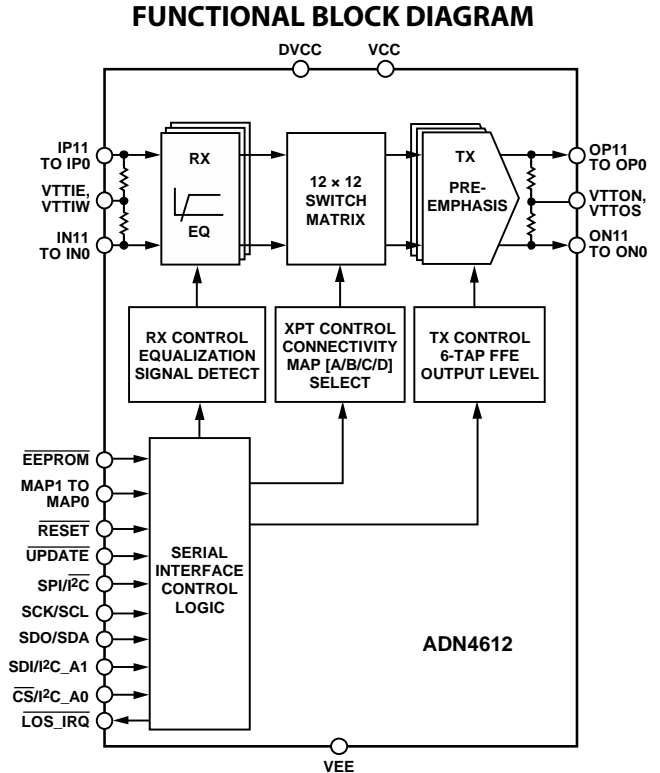
The ADN4612 nonblocking switch core implements a 12 × 12 crossbar and supports independent channel switching through the serial control interface. The ADN4612 has low latency and very low channel-to-channel skew.

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.

NOTES