MINDSPEED
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M21100 4x4 Crosspoint Switch with Signal Conditioning

⟩ Product Overview

Built on three generations of industry-leading crosspoint switches, the M21100 is a high-performance 4x4 crosspoint switch with signal conditioning, optimized for multilane telecom and datacom applications. Each channel operates independently at data rates of up to 3.2 Gbps, allowing maximum flexibility in system design. Signal conditioning features include input equalization and output pre-emphasis, allowing robust reception and transmission of signals to other devices up to 60" away. User-selectable input interface types allow DC-coupled input to CML, LVDS, and LVPECL. The outputs can also be DC-coupled to CML and LVDS. The device can be controlled either through hardwired pins or an I2C compatible interface. The hardwired mode eliminates the need for an external microcontroller, while allowing control of the key features of the device. The I2C compatible interface allows complete control of the device features.

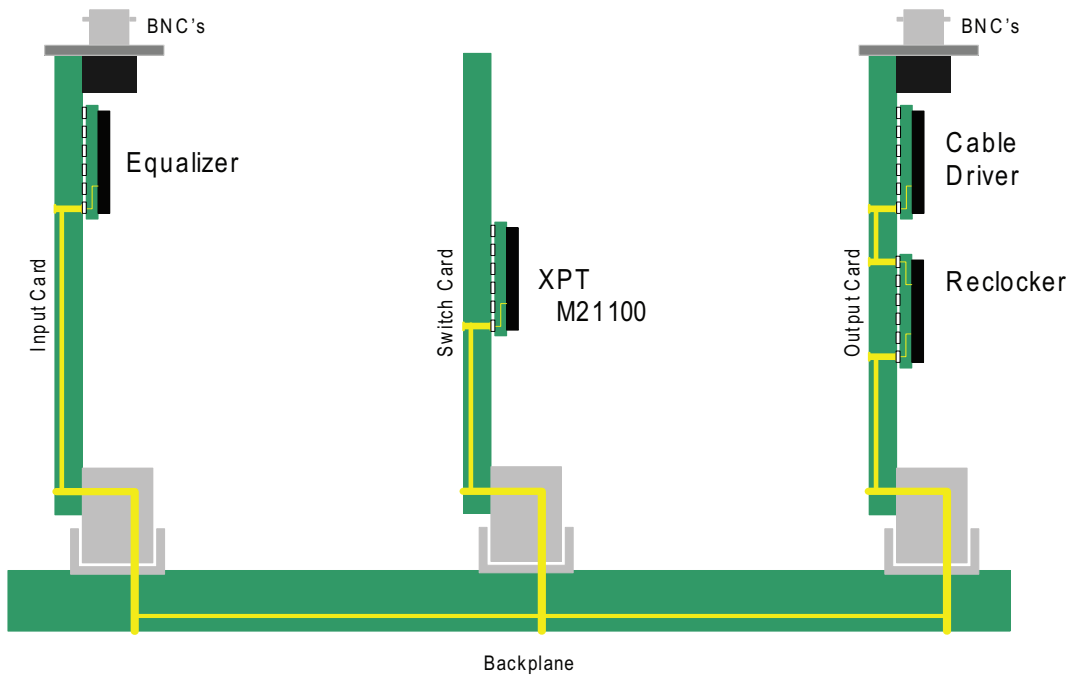| Features	Benefits
⟩ Four independent per-channel bit rates from 0 to 3.2 Gbps	Maximum flexibility in system design
⟩ User selectable input equalization and pre-emphasis	Improves system jitter budget
⟩ Programmable input equalizer	Allows control in removing deterministic jitter (ISI)
⟩ Programmable output pre-emphasis	Drives up to 1.5m (60") on backplane, and up to 25m on twin-axial cable
⟩ I2C or hardwired pins control	Flexible and complete control for configuration
⟩ Low typical power dissipation at 280 mW (all channels active)	Low power and thermal management costs
⟩ Flexible DC-coupled input interface to CML, LVDS, and LVPECL	Provides high-speed and easy input data interface without external components
⟩ Fully non-blocking architecture	Allows flexible routing of any input to any output
⟩ Extended temperature operation: -40°C to 85°C	Provides higher tolerance and additional design margin

Fig. 1 – Routing Switcher Application Diagram

> Product Features

Applications

- Protection Switching and Redundancy
- Backplane reach extension
- SONET/SDH systems and modules
- Fibre Channel systems
- Gigabit Ethernet systems
- 10GBASE-CX4 systems and modules
- HDMI/DVI routers
- Not appropriate for SMPTE video applications

Package (RoHS Compliant)
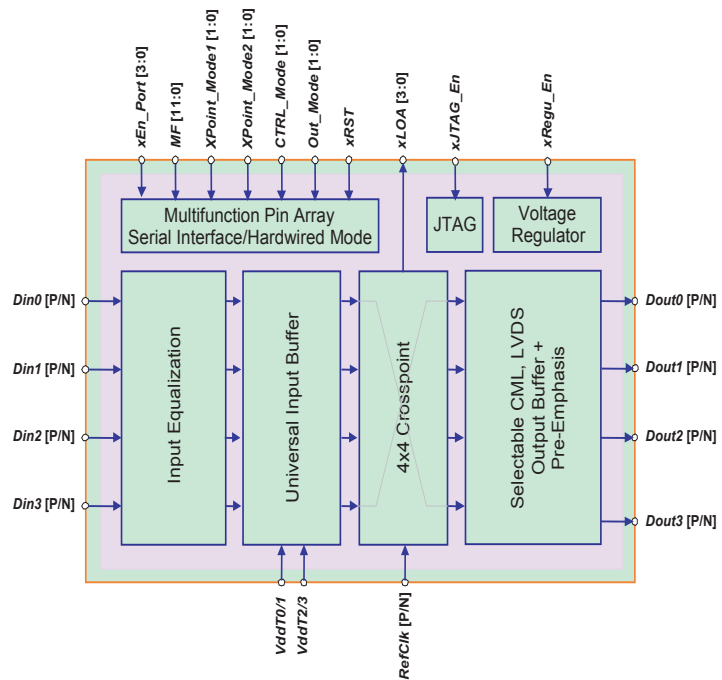
- 10x10 mm, 72-terminal MLF

Fig. 2 – M21100 Block Diagram

For more product information, please visit www.mindspeed.com

Ordering Info:

M21100-12
M21100G-12 (RoHS)