

M21605

12.5G 160x160 Crosspoint

The M21605, M21601 and M21080 are 160x160, 120x120 and 80x80, high-performance, asynchronous fully nonblocking crosspoint switches. They are ideally suited for high-speed data switching in datacom, telecom, Ultra High Definition Video (UHDTV) and 4K 60p definition applications. Each switching path can operate independently at any data rate of up to 12.5 Gbps, allowing for multi-rate routing and switching in one single device. Each input is equipped with a programmable equalizer capable of compensating up to 27 dB of loss at 12.5 Gbps. The output drivers are programmable, with up to 12 dB of post-tap and 5 dB of pre-tap deemphasis. Each lane is individually programmable and can be powered down if not used. The device can be operated from a single 1.8 V supply. The device is configurable through internal registers accessible by a 2-wire serial, 4-wire serial interface or an 8-bit parallel interface. 12.5 Gbps 160x160 Asynchronous Crosspoint Switch

Features

- 160x160 non-blocking array crosspoint switch with low power dissipation
- Four integrated temperature sensors with programmable alarm
- JTAG boundary scan
- 1.8, 2.5, and 3.3 V digital core voltages
- 1.8 V core and high-speed I/O voltage
- Auxiliary high-speed input and output for monitoring and testing
- Flexible configuration through standard 2-wire serial, 4-wire serial interfaces or 8-bit parallel interface
- Individual lane LOS (Loss Of Signal) detection and squelch
- Programmable output post tap de-emphasis up to 12 dB total and 5 dB total of pre-tap de-emphasis
- Programmable input equalization to compensate for up to 27 dB of loss at 6.25 GHz
- Low latency, less than 2 ns

Applications

- Backplane switching and signal conditioning
- Datacom, telecom, enterprise switchers/routers
- DWDM switches
- Serial Digital Video (SDI) switchers/routers
- Storage Area Network (SAN) switch fabrics
- UHDTV/4K Video

Specifications

- Max Data Rate: 12.5 Gbps

Part Number	Package
M21605EVM 12.8Gbps 160x160 Crosspoint Switch EVM	FIXTURE
M21605G-11P 12.8Gbps 160x160 Crosspoint Switch IC	
M21605G-12 160x160 Crosspoint Switch 12.5Gbps	45mm FCBGA-1924LD