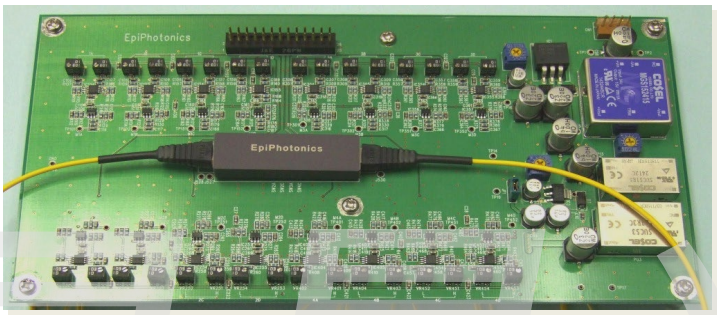
Nano-Second Speed 1x4 Optical Switch

Product Description

The PLZT optical switch module and PLZT optical switch subsystem are powerful tool to switch optical signal at nano-second speed. The 1x4 PLZT optical switch is based on a MMI-MZI type 1x8 PLZT optical switch on a single-chip and equipped with a high-speed driver in a compact enclosure case.



Features

Thanks to its efficient electro-optic properties and high refractive index. EpiPhotonics' unique PLZT waveguide technology enables a new generation of efficient optical switch subsystems with potent advantages. In addition, the PLZT products are very reliable and environmentally stable. The crystal structure of our PLZT materials and the fact that our optical switches have absolutely no moving parts guarantee high reliability and stability.

High-speed switching	Nano-second by low-voltage driving
Low-power consumption	Minimal-power by low-voltage driving
Low polarization dependence	Polarization insensitivity by material nature
Low wavelength dependence	Low dependence by MMI coupler
Low insertion loss	Reduced by buried waveguide structure
Excellent stability	Stability by inorganic crystalline nature
Compact size	Miniaturized by efficient material properties

Applications

The PLZT high-speed and low-power consumption products provide the key differentiators for many optical switching applications such as;

- Optical packet switching (OPS)
- Optical burst switching (OBS)
- On-demand crossconnects
- Switched optical access networks
- Optical interconnections (data center networks, server backplanes)
- Switched delay lines (phased array antennas, optical buffering)
- Qubit control

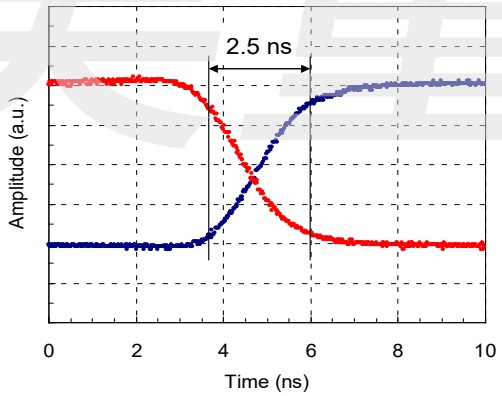
Parameters	Specifications (preliminary)
Scale	1x4 (bi-directional)
Operating wavelength	1550 nm (C-band)
Rise and fall time	10 ns typ*
Repetition rate	DC to > 20 MHz*
Insertion loss	5.5 dB typ
Crosstalk	30 dB typ
Return loss	30 dB typ
PDL	0.5 dB typ
Maximum operating input power	> 500 mW
Switching voltage (switch)	6V typ
Power supply voltage (switch driver board**)	24 VDC (Rack mount type: 110/220 VAC)
Power consumption (switch)	55 mW at 1 MHz
Power consumption (switch driver board**)	2.4 W at 1 MHz
Switch driver board* control interface	3.3V TTL Parallel (RS-232 option available)

* Including driver response, **Optional

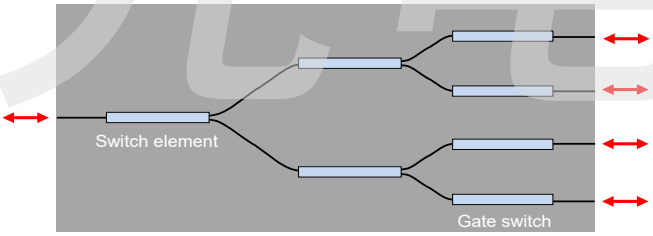
Dimensions	Specifications (preliminary)
Switch module	43 x 13 x 6 mm3 (W x D x H)
Switch driver board*	200 x 105 x 14 mm3 (W x D x H)
Rack mount*	1U-19" rack

* Optional

Typical Switching Data (1x2 Switch element (three elements are cascaded))



Rise/Fall response of a switch element



1x4 PLZT Optical Switch Architecture