EpiPhotonics

WSS and PLZT Photonics

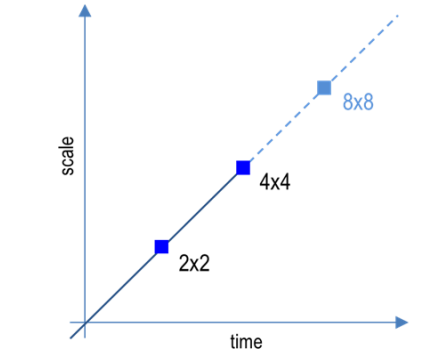
2023

EpiPhotonics pioneers the design and manufacture of WSS and PLZT photonic components and subsystems for advanced optical applications. EpiPhotonics' unique and proprietary epitaxial PLZT waveguide technology based on 25 years of R&D features radical performance gains compared to traditional technologies in terms of speed, power consumption, integration, dimensions, and robustness.

Tomorrow's technology for advanced optical communications

Photonics subsystems designed and manufactured with LCOS-based WSS and PLZT waveguide technology will revolutionize tomorrow's markets, such as the telecommunications and data communications.

EpiPhotonics' products enable systems manufacturers to generate more revenues by delivering better products to their end-users. Moreover, the technological advances of EpiPhotonics enable its customers to anticipate the mass-market photonics of tomorrow.

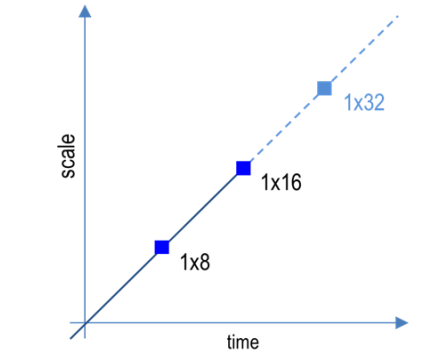


NxN high-speed optical switch product roadmap

Leader in waveguide technology

LCOS-based WSS acchieves 50GHz or 100GHz channel spacing and up to 96 wavelength switching at software definable reconfigurable ports with minimal power consumption.

PLZT is the attractive electro-optic material technology for the integration of high-channel count and/or various photonic functions into a monolithic chip,



1xN high-speed optical switch product roadmap

Optimized performance

High-speed
Low-Power consumption
High reliability & environmental stability

Products

WSS (Wavelength Selective Switch)
- 1x9 ports or 5x5 ports operation

Nano-second speed optical path switch
- 1x2 ports, 1x4 ports, 1x8 ports, 1x16 ports
- 2x2 ports, 4x4 ports

Modulator (under development)

Customization

EpiPhotonics supplies products tailored to customers' requirements.

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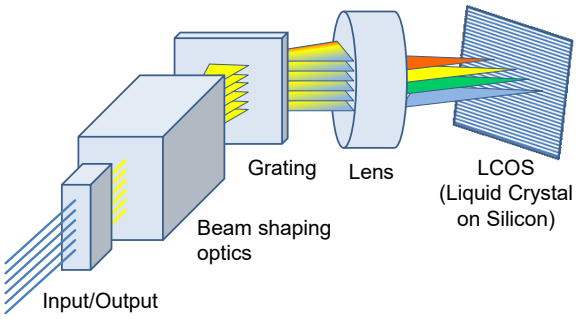
EpiPhotonics

Flexible Wavelength Selective Switch

LCOS based WSS Technology

Principle of LCOS based WSS

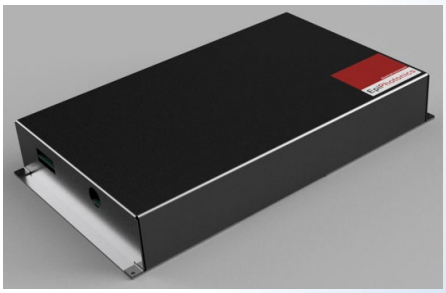
- WSS based on LCOS (Liquid Crystal on Silicon)
- Incoming optical signal beams are shaped by optics
- Wavelengths are separated by gratings
- Grating pattern deflect each wavelength beam toward output

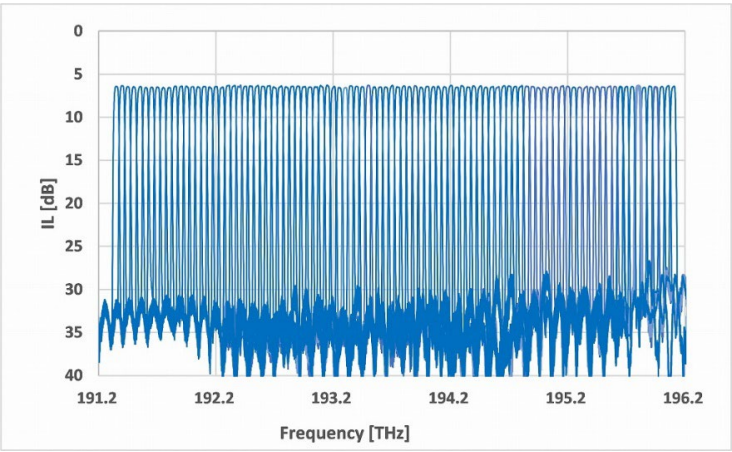


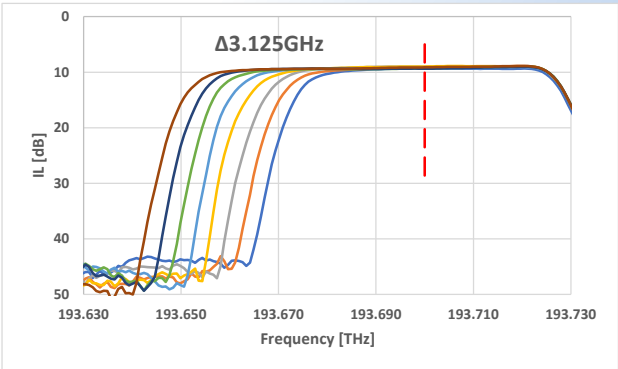
WSS Product Overview

WSS Feature

- 1x9 ports reconfigurable to 5x5 or MxN WSS (available now)
- Larger port count WSS under development (supported by NEDO)
- Up to 96 channels, 50GHz spacing
- Uniform channel selection with attenuation capability
- Grid-less and high resolution operation
- Wavelength multiplexing capability even at MxN configuration
- Ultra-low power consumption (no-temperature control)







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EpiPhotonics

Nano-Second Speed PLZT Photonics

The fastest and the most efficient integrated photonics available in today's industry

PLZT Technology

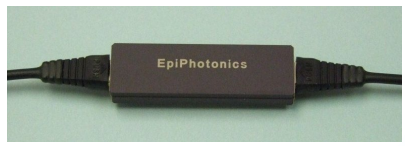
Electro-Optic PLZT Waveguide

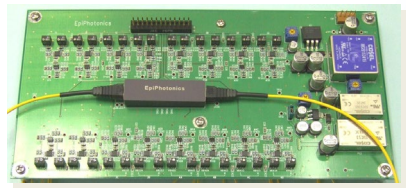
- Integrated compact MZ optical switches on a efficient electro-optic PLZT waveguide chip.

PLZT Modules and Driver Boards

1x1, 1x2, 1x4, 1x8, 1x16 Switches

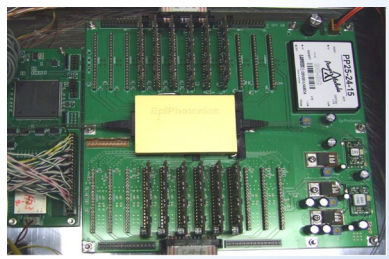
- Switching time: 10ns, Polarization independent
- Low IL, Crosstalk ~ 30 dB
- 10V direct drive or TTL control driver
- Tree structure 1xN switches





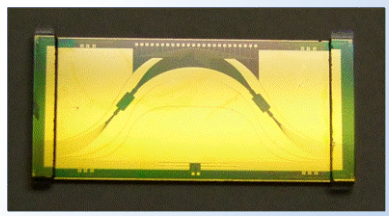
2x2, 4x4, 8x8 Switches

- Switching time: 10ns~20 ns, Polarization independent
- Low IL, Crosstalk ~ 30 dB
- 10V direct drive or TTL control driver
- Strictly non-blocking NxN switches
- 2x2 & 4x4: Monolithically integrated, 8x8: 1x8 cascaded



VOA and Custom Components

- Nano-second speed VOA
- Nano-second speed 1x2 Wavelength Selective Swit
- Nano-second speed Tunable AWG



PLZT Systems

Optical Switching Systems

- Rack mounted optical switching system equipped with FPGA for PC control without a multi-channel pulse generator.

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