

## Custom High-Speed Lithium Niobate Electro-optic Switches

$\lambda = 1550\text{nm}$ ; Please call for other  $\lambda$  : 2000+, 1700, 1300, 1060, 980, 850, 700nm

### Ultra-High-Speed (sub-nanoseconds) 1x2, 2x2 Optical Switches/Modulators ( wideband traveling-wave electrode structure with internal 50- $\Omega$ termination)



#### 1x2, 2x1, 2x2 Ultra-high-speed Switch/Modulator

- Single polarization (SP), separate DC bias port
- $>10\text{GHz}$  ( $>18\text{GHz}$  option),  $T_{\text{switch}} \ll 100\text{ps}$ ,  $V\pi \sim 5\text{V}$
- Insertion loss  $< 4.0\text{dB}$  ( $< 3.0\text{dB}$  option)

### Very-High Speed (<10 nanoseconds) 1xN, Nx1, NxN Optical Switches Single-Polarization (SP) or Polarization Independent (PI)

#### 1x1, 1x2, 2x1, 2x2 Switches



#### Single Polarization (SP) version:

- Insertion Loss  $< 4.0\text{ dB}$  ( $< 2.5\text{ dB}$  option)
- Capacitive electrode ( $C \sim 30\text{pF}$ ), Switching Time  $< 10\text{ ns}$ .
- Switching Voltage  $\sim 5\text{ V}$
- Crosstalk  $< -20\text{ dB}$

#### Polarization Independent (PI) version:



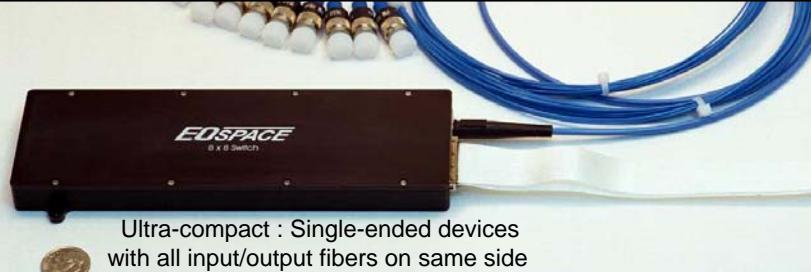
#### 1x8 (8x1) Switch-Array Module



#### Single Polarization version:

- Insertion Loss  $< 5\text{ dB}$ , ( $< 3.5\text{ dB}$  option)
- Crosstalk  $< -20\text{ dB}$
- Capacitive electrode ( $C < 25\text{pF}$ ), Switching Time  $< 10\text{ ns}$ .
- Polarization Independent version (please call)

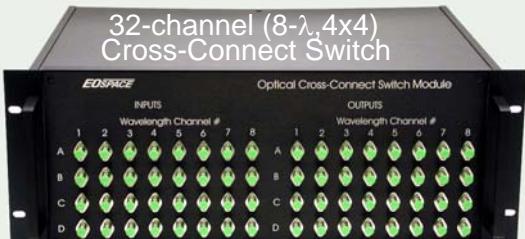
#### Compact, High-speed 8x8 Switch-Array Module



#### Custom: Large-scale Switch Module-examples



Programmable,  
4-bit (binary)  
Optic Time-Delay  
Switch Module



32-channel (8- $\lambda$ ,4x4)  
Cross-Connect Switch