

2x2 High Speed Lithium Niobate Interferometric Switch



Key Features

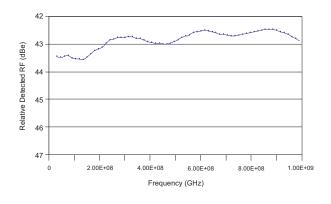
- High polarization extinction
- Low drive voltage
- Low fiber-to-fiber insertion loss
- 1550 nm operation

Applications

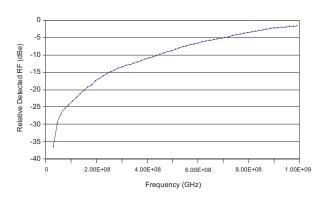
· Nanosecond switching

The JDSU 2x2 Interferometric Switch is a high extinction, high speed switch. Because the waveguides are polarizing, control of the input light polarization is required. Switching speeds in excess of 1 ns are attainable. Input and output fibers are polarization maintaining.

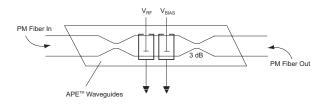
Typical Frequency Response, S21



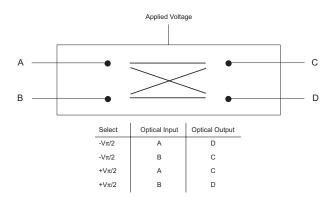
Typical Return Loss Curve, S11



Device Schematic

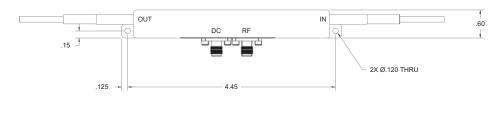


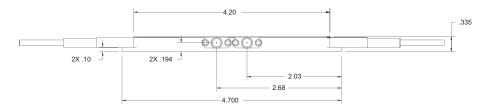
Functional Schematic

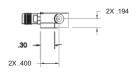


2x2 Interferometric Switch Dimensions Diagram

(Specifications in inches [mm] unless otherwise noted.)







Specifications

Parameter	Specification	
General		
Material	Lithium niobate	
Crystal orientation	X-cut, y-propagating	
Optical ¹		
Maximum input optical power	200 mW	
Operating wavelength	1545 to 1555 nm	
Insertion loss	≤5.0 dB	
On/off extinction ratio, low frequency	≥18 dB	
Optical return loss	≤-45 dB	
Rise and fall time	≤0.2 ns	
Electrical ¹		
RF port		
V_{π} at DC	≤7.0 V	
Impedance	50 Ω typical	
RF power	≤27 dBm	
RF electrode capacitance, Ce	6.3 pF typical	
Bias port		
V_{π} at DC	≤3.5 V	
Impedance	>10 kΩ	
Mechanical		
Electrical connectors (package)	SMA connectors	
PM input and output fiber	Fujikura SM-15-P-8/125-UV/UV-400	
Environmental		
Operating temperature	0 to 70 °C	
Storage temperature	-40 to 85 °C	

^{1.} All measurements made at 23°C unless otherwise noted.



Ordering Information	

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at customer.service@jdsu.com.

Sample: 10022467

Product Code	Description
10022467	2x2 Interferometric Switch, no optical connectors
10020457	2x2 Interferometric Switch, FC/PC optical connectors

Fujikura SM-P-8/125-UV-400 is a trademark of Corning Incorporated.

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