2x2 High Speed Lithium Niobate Interferometric Switch

Key Features

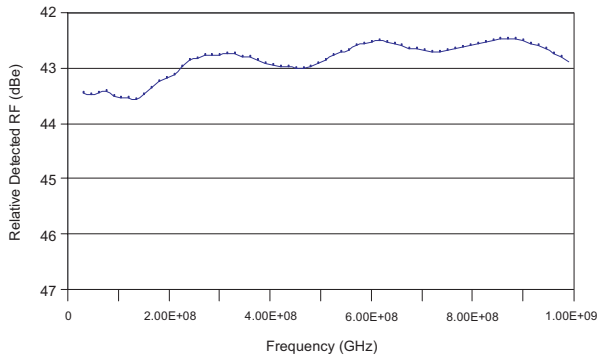
- High polarization extinction
- Low drive voltage
- Low fiber-to-fiber insertion loss
- 1550 nm operation

Applications

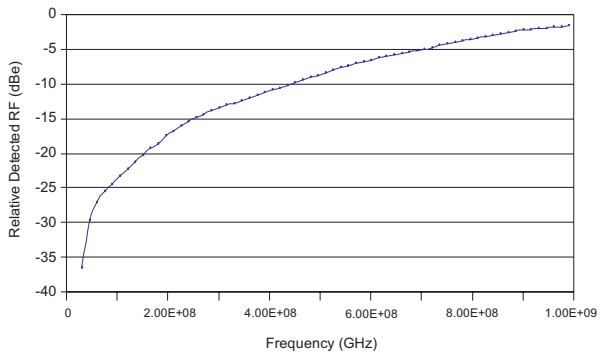
- Nanosecond switching

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



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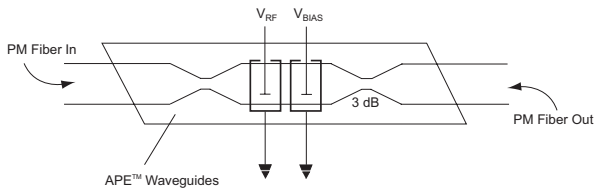
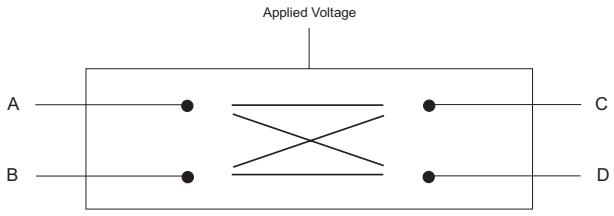
Device Schematic



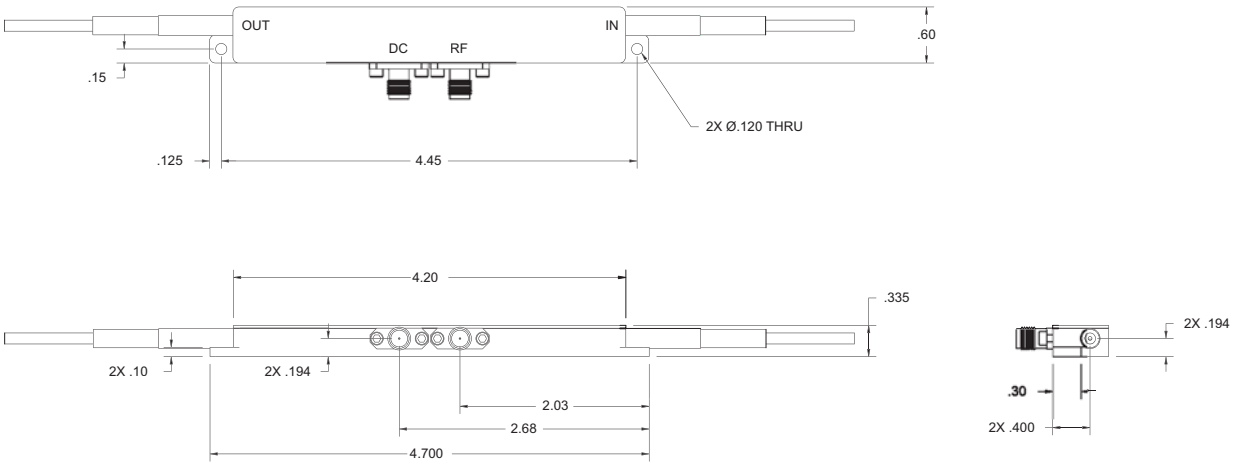
Functional Schematic



Select	Optical Input	Optical Output
-Vπ/2	A	D
-Vπ/2	B	C
+Vπ/2	A	C
+Vπ/2	B	D

2x2 Interferometric Switch Dimensions Diagram

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



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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