

NanoSpeed™ 2X2 Series Fiber Optical Switch (SM, PM)

(Protected by U.S. patents 7,403,677B1; 6,757,101B2; and pending patents)

Product Description

The NS Series 2x2 solid-state fiber optic switch connects optical channels by redirecting an incoming optical signal into a selected output optical fiber. This is achieved using patented non-mechanical configurations with unique electro-optical design, which eliminates the need for mechanical movement and organic materials. The NS fiber optic switch is designed to meet the most demanding switching requirements of ultra-high reliability, fast response time, and continuous switching operation.

The NS Series switch is controlled by 5V TTL signals with a specially designed electronic driver having performance optimized for various repetition rate.



Features

- Solid-State
- High speed
- Ultra-high reliability
- Low insertion loss
- Compact

Performance Specifications

NanoSpeed Series 2x2 Switch		Min	Typical	Max	Unit
Insertion Loss ^[1]	1260-1650nm		0.8	1.2	dB
	960-1260nm		1.0	1.3	dB
	780-960nm		1.2	1.5	dB
Cross Talk ^[2]		20	25	35	dB
PDL (SMF Switch only)			0.15	0.3	dB
ER (PMF Switch only)		18	25		dB
IL Temperature Dependency			0.25	0.5	dB
Return Loss		45	50	60	dB
Response Time (Rise, Fall)				300	ns
Fiber Type	SMF-28, Panda PM, or equivalent				
Driver Repeat Rate	100kHz driver	DC	100		kHz
	500kHz driver	DC	500		kHz
Optic power Handling ^[3]			300		mW
Operating Temperature		-5		70	°C
Storage Temperature		-40		85	°C

[1] Measured without connectors. For other wavelength, please contact us.

[2] Cross talk is measured at 100kHz, which may be degraded at the high repeat rate.

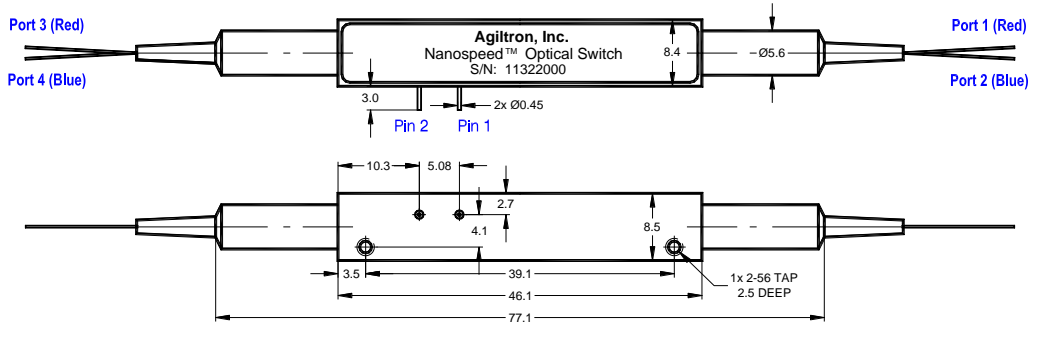
[3] Defined at 1310nm/1550nm. For the shorter wavelength, the handling power may be reduced, please contact us for more information.

Applications

- Optical blocking
- Configurable operation
- Instrumentation

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Mechanical Dimensions (Unit: mm)



Optical Path Driving Table

Optical Path	TTL Signal
Port 1→Port 3, Port 2→Port 4	L (< 0.8V)
Port 1→Port 4, Port 2→Port 3	H (> 3.5V)

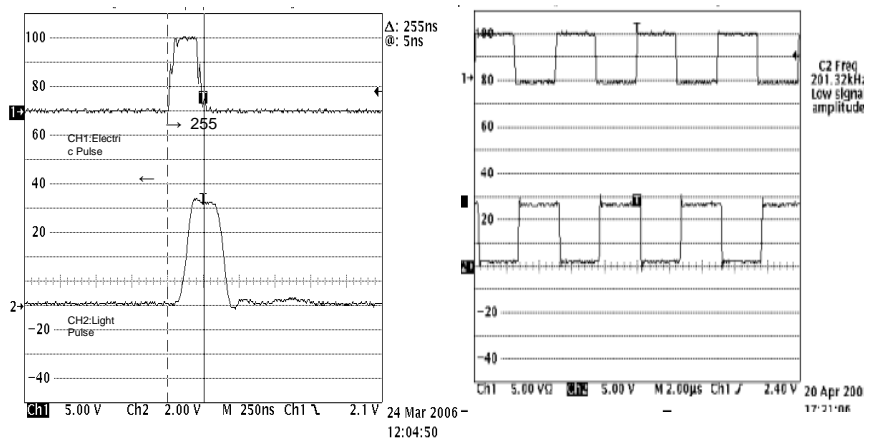
Driving Board Selection

Maximum Repetition Rate	Part Number (P/N)
100kHz	SWDR-11a261111
500kHz	SWDR-11a291111

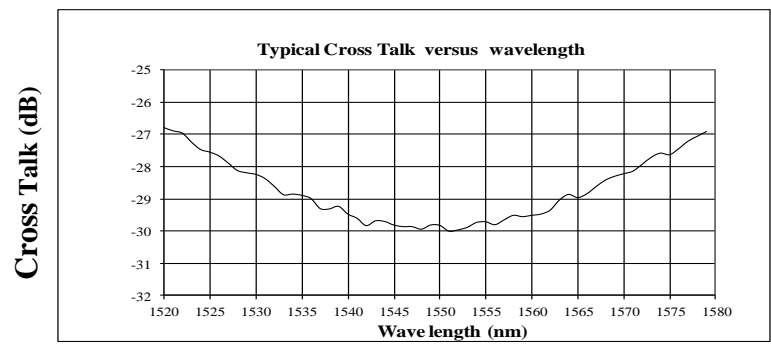
* Note: For customers that prefer to design their own driving circuit, they are responsible for the optical performance. For more technical information, please contact us.

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Typical Speed and Repetition Measurement



Typical Bandwidth Measurement



Ordering Information

NSSW -	2 2	<input type="checkbox"/>	1	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Type	Wavelength	Configuration & Package	Fiber Type	Fiber Length	Connector				
2x 2=22	1060nm=1 L Band=2 1310nm=3 1410nm=4 1550nm=5 780nm=7 850nm=8 Special=0	Single stage = 1 Normal package = 1	SMF-28=1 HI1060=2 HI780=3 PM 1550/400=4 PM 1550/250=5 PM980=9 PM850=8 Special=0	Bare fiber=1 900um loose tube=3 Special=0	0.25m=1 0.5m=2 1.0 m=3 Special=0	None=1 FC/PC=2 FC/APC= 3 SC/PC=4 SC/APC=5 ST/PC=6 LC/PC=7 Duplex LC=8 LC/APC=9 Special=0			