



NanoSpeed™ 1x2 Series Fiber Optical Switch (SMF, PMF, High Power)

(Protected by U.S. patent 7,403,677B1 and pending patents)

Product Description

The NanoSpeed™ Series 1x2 solid-state fiber optic switch connects optical channels by redirecting an incoming optical signal into a selected output optical fiber. This is achieved using patent non-mechanical configurations with solid-state all-crystal designs, 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. This series of switches are **bidirectional** intrinsically.

Agiltron's PCB driver listed in the web is recommended to operate this device, featuring high efficiency and low cost with 12V DC power and TTL control signal.



Features

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

Performance Specifications

NanoSpeed Series 1x2 Switch	Min	Typical	Max	Unit
Central wavelength ^[1]	780		1650	nm
Insertion Loss ^[2]	1260-1650nm	0.6	1.0	dB
	960-1100nm	0.8	1.3	
	780-960nm (Normal power switch only)	1.0	1.5	
Cross Talk	20	25	35	dB
PDL (SMF Switch only)		0.15	0.3	dB
PMD (SMF Switch only)		0.1	0.3	ps
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)	30		300	ns
Fiber Type	SMF-28, Panda PM, or equivalent			
Repeat Rate	5kHz driver	DC	5	kHz
	100kHz driver	DC	100	
	500kHz driver	DC	500	
Optic power Handling ^[3]	Normal power switches	300		mW
	High power switches			5 W
Operating Temperature	-5			°C
Storage Temperature	-40			°C

[1] Operation bandwidth is +/- 25nm approximately at 1550nm.

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

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

Applications

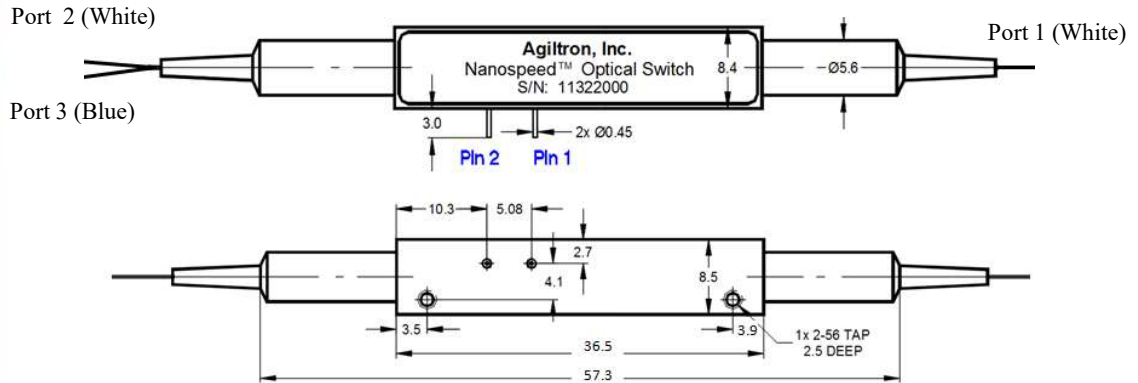
- Optical protection
- Configurable operation
- Instrumentation

NanoSpeed™ 1x2 Series Fiber Optical Switch

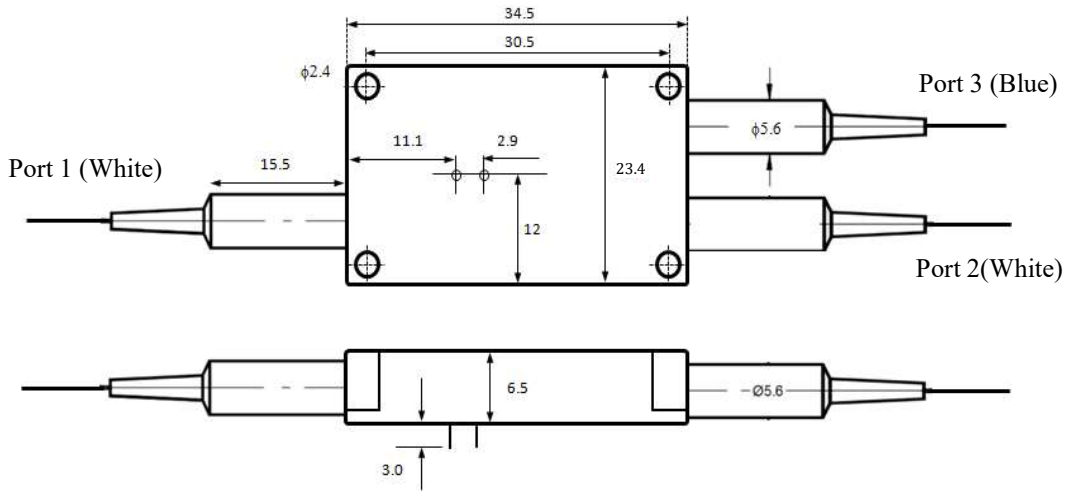
(SMF, PMF, High Power)



Mechanical Dimensions (mm)



Normal power switch series



High power switch series

Optical Path Driving Table

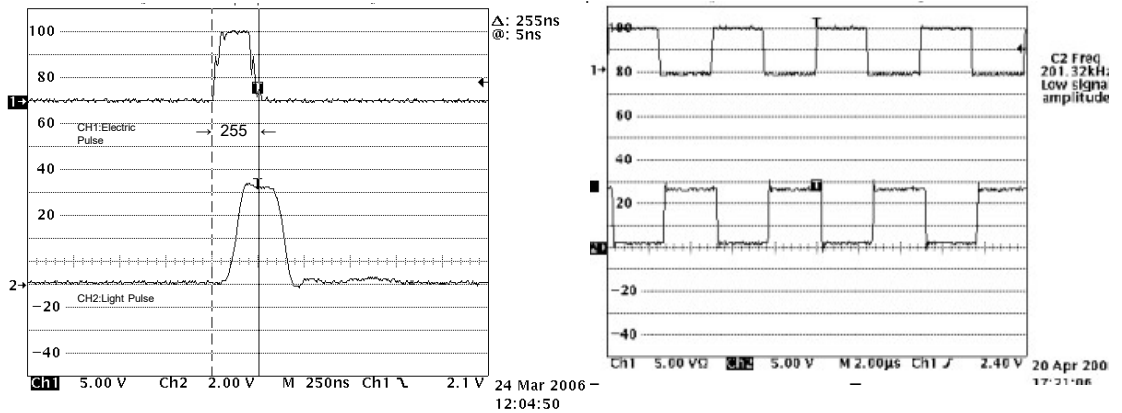
Optical Path	Pin 1	Pin 2
Port 1→Port 2	No Power	
Port 1→Port 3	H	GND
H: 360 ~ 420 V		

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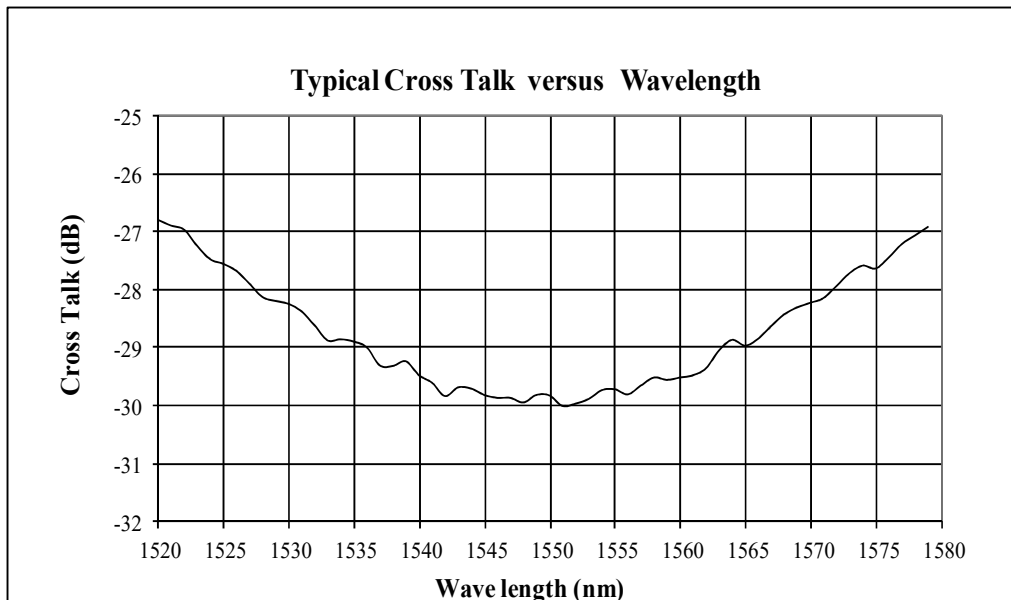
(SMF, PMF, High Power)



Typical Speed and Repetition Measurement



Typical Bandwidth Measurement





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Ordering Information

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	1 2	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Type	Wavelength ^[1]	Configuration	Package	Fiber Type		Fiber Length	Connector ^[2]
NSSW = Low power switch NHSW = High power switch	1x 2=12	1060nm=1 L Band=2 1310nm=3 1410nm=4 1550nm=5 780nm=7 850nm=8 Special=0	Single stage = 1	Standard = 1 Special = 0	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

[1]. High power switch isn't available for the wavelength shorter than 960nm
 [2]. There isn't any connector in high power switches. Please contact us for high power connectors.

* For 1060nm or short wavelength. Please refer to NS High Power 1x2 Switch.