NanoSpeed™ 1x1 Series Fiber Optical On-Off Switch (SMF, PMF, High Power)

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

Features

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

Applications

- Optical blocking
- Configurable operation
- Instrumentation

Product Description

The NanoSpeed™ 1x1 series fiber optic on-off switches are fast shutter device featuring very low loss, fast response, and high optical power handling. This is achieved using patented 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. The switch is bidirectional.

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.

Performance Specifications

NanoSpeed Series 1x 1 Switch		Min	Typical	Max	Unit
Central wavelength [1]		780		2050	nm
Insertion Loss [2]	1700~2050		1.0	1.5	dB
	1260~1650nm		0.6	1.0	
	960~1100nm		0.8	1.3	
	780~960nm (Normal power switch only)		1.0	1.5	
On-Off Ratio		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)				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		70	°C
Storage Temperature		-40		85	°C

[1] Operation bandwidth is +/- 25nm approximately at 1550nm.
[2] Measured without connectors. For other wavelengths, please contact us.
[3] Defined at 1310nm/1550nm. For the shorter wavelength, the handling power may be reduced, please contact us for more information.

RoHS Compliant

15 Presidential Way, Woburn, MA 01801 Tel: (781) 9351200 Fax: (781) 935-2040

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Revised on 11-15-17

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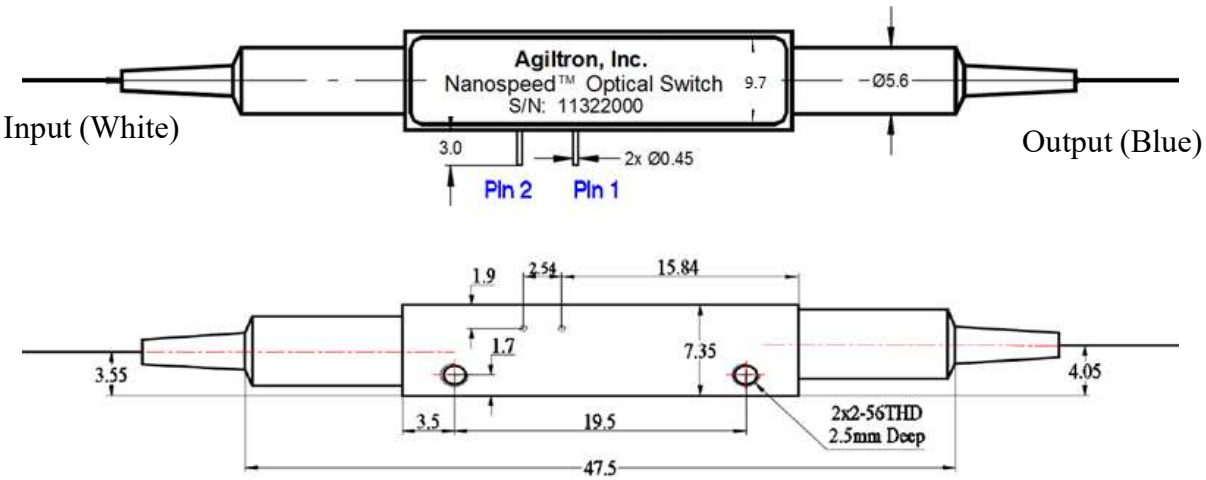
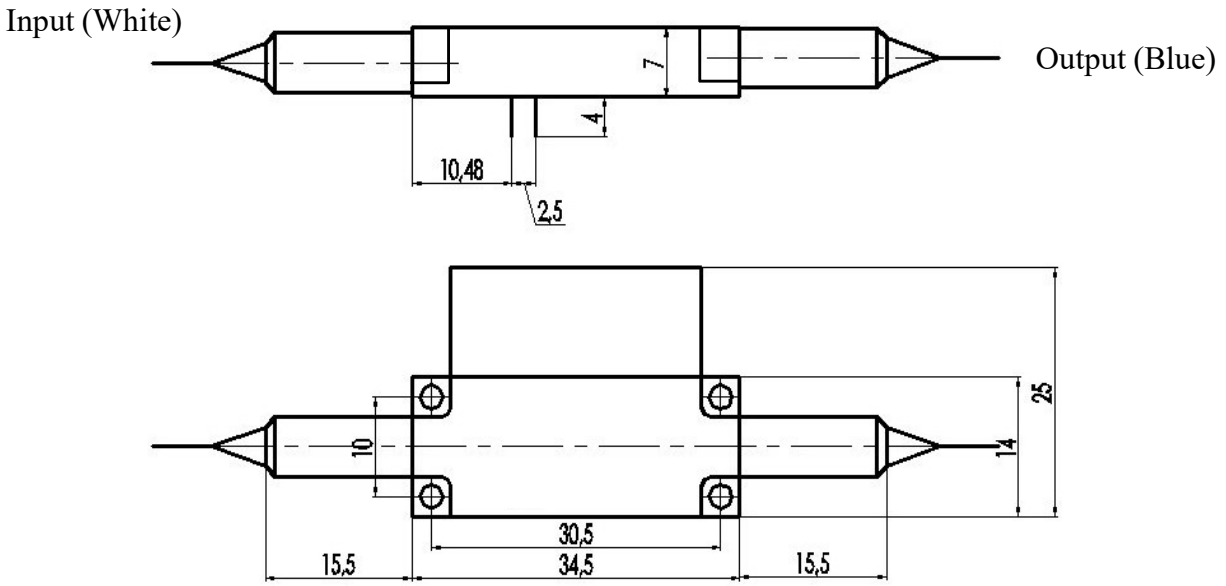
Mechanical Dimensions (mm)



Low Power Switches



High Power Switches [1]

[1] For 2000 nm wavelength, the box size is 60x14x7 mm.

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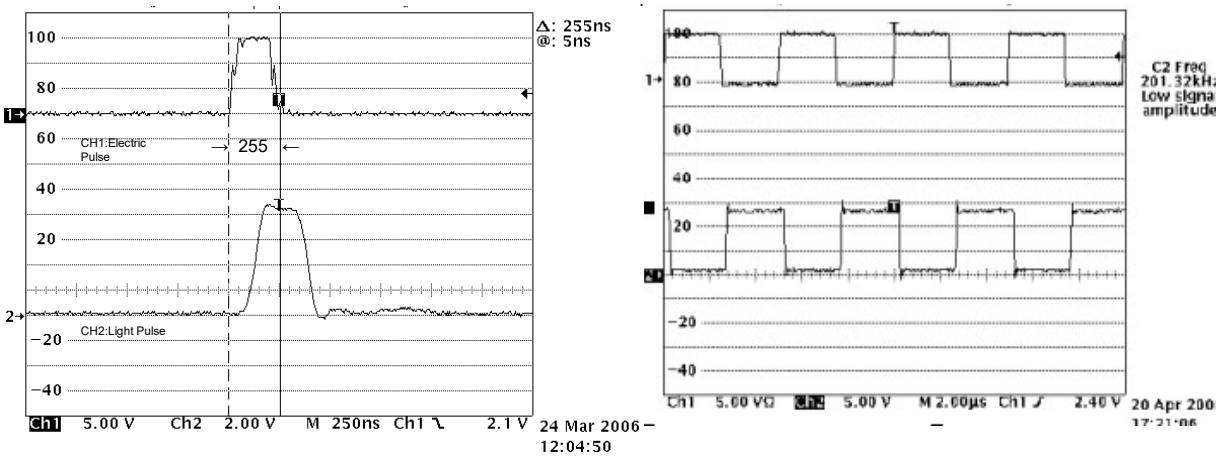
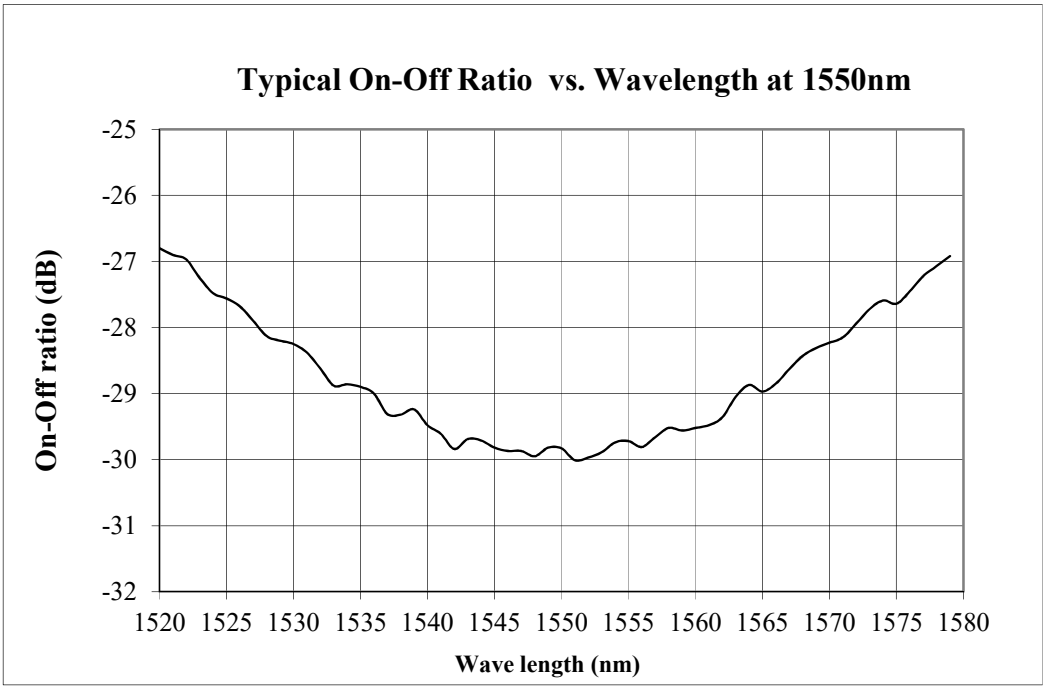
Typical Speed and Repetition Measurement



Typical Bandwidth Measurement



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Ordering Information

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	Type	**Wavelength [1]**	**Configuration**	**Fiber Type**		**Fiber Length**	**Connector [2]**	
NSSW = Normal power switch NHSW = High power switch	1x1=11	1060nm=1 L Band=2 1310nm=3 1410nm=4 1550nm=5 780nm=7 850nm=8 980 nm=9 2000 nm=6 Special=0	Normally on & single stage = 11 Normally off & single stage package= 21	SMF-28=1 HI1060=2 HI780=3 PM 1550/400=4 PM 1550/250=5 PM1950=6 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 the high power switches normally. Please contact us for high power connectors.

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