

NanoSpeed™

Fiber Optical Phase Modulator/Switch

(bidirectional, polarization insensitive, all wavelengths)

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

Product Description

The NS Series fiber optical phase modulator/switch is based on a patented electro-optical configuration, featuring low optical loss and wide temperature operation with built-in compensation. The device dynamically controls the optical phase of the transmitting light, meeting the most demanding requirements of continuous operations over 25 years and non-mechanical ultra-high reliability (passed Telcordia and space qualifications). The device is bidirectional in which the input and output ports are interchangeable.

This device is mounted on a specially designed electronic driver using a 5V TTL control signal through SMA input and a 12V power supply (wall pluggable). The maximum phase change can be adjusted by a pot on the board



Performance Specifications

NanoSpeed P Series Switches		Min	Typical	Max	Unit
Insertion Loss [1]	1900-2200nm		0.8	1.8	dB
	1260-1650nm		0.6	1.0	
	960-1100nm		0.8	1.3	
	780-960nm		1.2	1.5	
	520 - 680nm		1.5	2.3	
IL Temperature Dependency			0.25	0.5	dB
Polarization Dependent Loss (Non PM)			0.15	0.3	dB
Polarization Mode Dispersion (Non PM)			0.1	0.3	ps
Return Loss		45	50		dB
Phase Change				90	Degree
Analog Modulation rate [2]		DC	50	200	KHz
Digital Modulation Rate [3]		DC		1	MHz
Optic power Handling [4]	Normal power version		300		mW
	High power version			5	W
Operating Temperature	Standard	-5		75	°C
	Special version	-30		85	
Storage Temperature		-40		100	°C

[1] Measured without connectors.

[2] The phase change is proportionally to the 0-5V control signal

[3] The maximum phase change is set at a predetermined value

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

Features

- High Reliability
- High Speed
- Low loss
- Compact

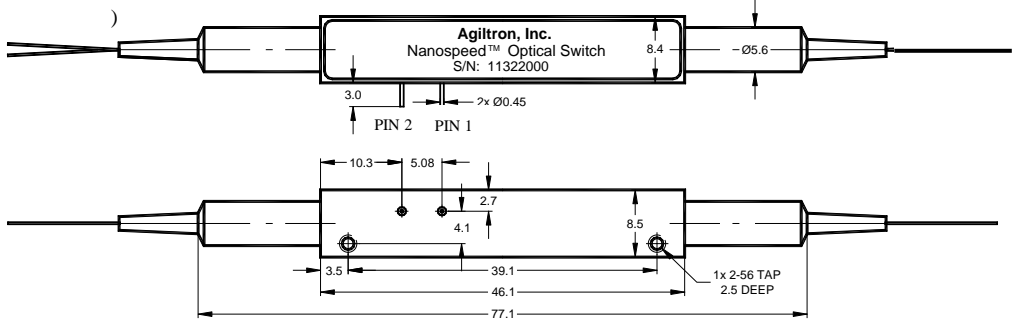
Applications

- Sensor
- Data process
- Instrumentation

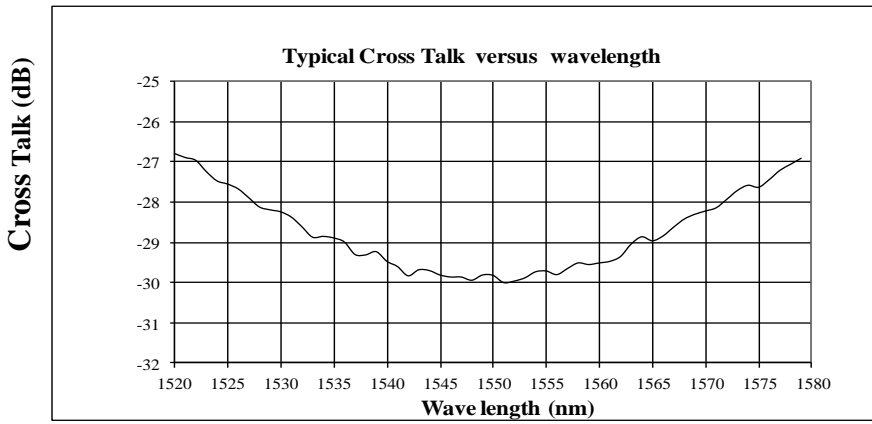
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Mechanical Dimensions (Unit: mm)



Typical Wavelength Dependence Extinction Measurement



Ordering Information

NSPM-	Type	Wavelength	Temperature range	Repetition Rate	Fiber Type	Fiber Length	Connector
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Standard = 11 High Power = 22	1060=1 2000=2 1310=3 1480=4 1550=5 1625=6 780=7 850=8 650=E 550=F 400=G 1565-1620=L Special=0	Standard=1 Large = 2	100kHz=1 200KH =2 1MHz=6	SMF-28=1 HI1060=2 HI780=3 PM1550/400=4 PM1550/250=5 PM850=8 PM980=9 Special=0	Bare fiber=1 900um tube=3 Special=0	None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC/PC=7 LC/APC=8 Special=0