

## 16XXnm 300ns 1X2 Ultrafast Optical Switch



- **Product Description**

The NS series 1x4 solid-state fiber optic switch consists of three 1x2 cascaded optical switches. It connects optical channels by redirecting incoming optical signals to the selected output optical fiber. The characteristics of this product are based on the obtained non-mechanical structure (all-crystal) design, which avoids the movement of mechanical parts and the limitations of organic materials. The advantages of this product such as high reliability, high response speed and continuous switching can meet the needs of most optical switch applications.



## ● Product features

Solid state, high speed 、 Ultra-high reliability 、 Ultra-low insertion loss 、  
Compact structure

## ● Part Number

MP-OSW-16XX-NS300-12-M

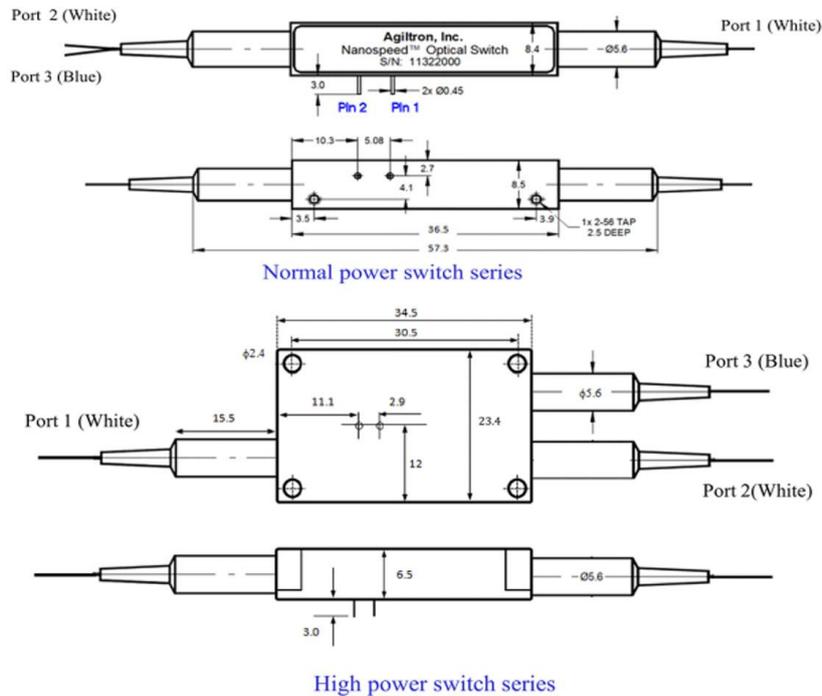
## ● Application area

Optical protection 、 Configurable operations 、 Instruments

## ● Core parameters

Wavelength	Type	Response Time
16xx nm	1x2	300ns

## ● Dimension Drawing



## ● General Parameters

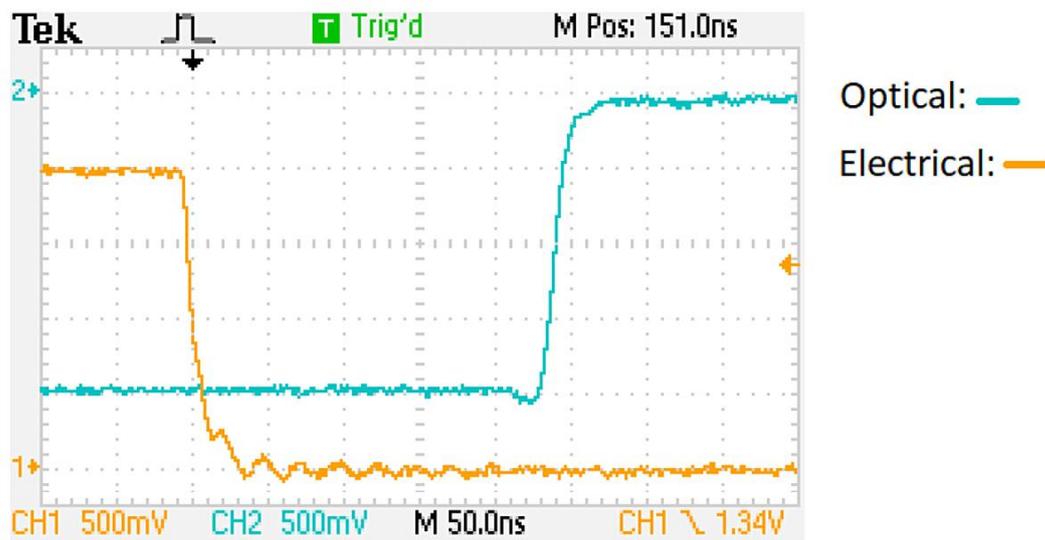
NS Series 1x2 Switches		Min. Value	Typical Value	Max. value	unit
Operating wavelength(1)		780		1650	nm
Insertion loss(2)	1260-1650nm		0.6	1.0	dB
	960-1100nm		0.8	1.3	
Crosstalk (3)		20	25	35	dB

<b>Polarization Dependent Loss</b>			<b>0.15</b>	<b>0.3</b>	<b>dB</b>
<b>PDL (SMF Optical Switch)</b>					
<b>Polarization Mode Dispersion</b>			<b>0.1</b>	<b>0.3</b>	<b>ps</b>
<b>PMD (SMF Optical Switch)</b>					
<b>ER (PMF Optical Switch)</b>		<b>18</b>	<b>25</b>		<b>dB</b>
<b>Insertion loss temperature dependence</b>			<b>0.25</b>	<b>0.5</b>	<b>dB</b>
<b>Return loss</b>		<b>45</b>	<b>50</b>	<b>60</b>	<b>dB</b>
<b>Response time (rise, fall)</b>				<b>300</b>	<b>ns</b>
<b>Fiber Type</b>		<b>SMF-28, Panda PM,</b>			
<b>Drive repetition frequency</b>	<b>100kHz driver</b>	<b>DC</b>	<b>100</b>		<b>kHz</b>
	<b>500kHz driver</b>	<b>DC</b>	<b>500</b>		
<b>Optical power limitation (4)</b>	<b>Ordinary power switch</b>		<b>300</b>		<b>mW</b>
	<b>High power switch</b>			<b>5</b>	<b>W</b>
<b>Operating temperature</b>		<b>-5</b>		<b>70</b>	<b>°C</b>
<b>Storage temperature</b>		<b>-40</b>		<b>85</b>	<b>°C</b>

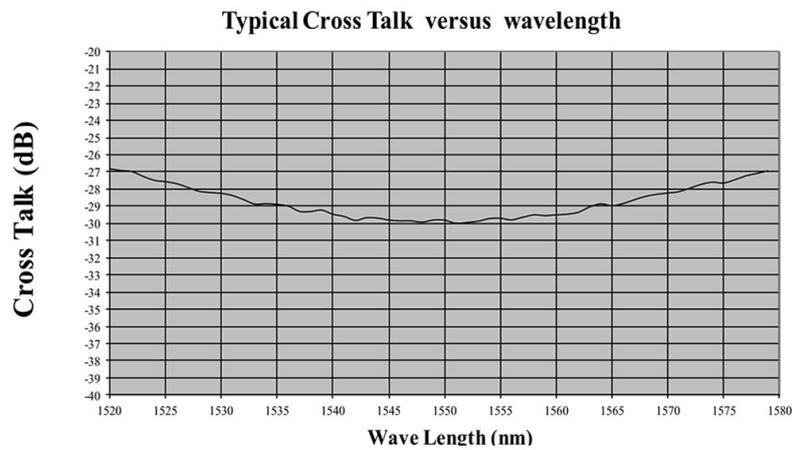


- (1) The operating bandwidth is approximately  $\pm 25\text{nm}$  at 1550nm.
- (2) Measurement without connector, other wavelengths can be customized.
- (3) Crosstalk is measured at 100kHz and may be degraded at higher repetition rates.
- (4) Defined at 1310nm/1550nm. For shorter wavelengths, handling power may be reduced, please contact us for more information.

#### Typical velocity response measurements



## Bandwidth measurement



## Optical drive path

Optical Path	TTL Signal
Port1→Port2	L (<0.8V)
Port1 → Port3	H (>3.8V)

## Drive selection

Max. repetition frequency	Part Number (P/N)
100kHz	SWDR-11a261111
500kHz	SWDR-11a291111



### Model and ordering

<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>12</b>	<input type="checkbox"/>	<b>1</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Type</b>	<b>Wavelength</b>	<b>Configuration</b>	<b>Package</b>	<b>Fiber Type</b>	<b>Fiber Cover</b>	<b>Fiber Length</b>	<b>Connector</b>
<b>Normal power</b>	<b>1X2</b>	<b>1060nm</b> <b>L Band</b> <b>1310nm</b> <b>1410nm</b> <b>1550nm</b> <b>Species</b>	<b>Single stage</b>	<b>Standard Special</b>	<b>SMF-28</b> <b>HI1060</b> <b>PM1550/2</b> <b>50</b> <b>Special</b>	<b>Bare fiber</b> <b>900um tube</b> <b>Special</b>	<b>0.25m</b> <b>0.5m</b> <b>1.0m</b> <b>Special</b>	<b>None</b> <b>FC/PC</b> <b>FC/APC</b> <b>SC/PC</b> <b>SC/APC</b> <b>ST/PC</b> <b>LC/PC</b> <b>Duplex LC</b> <b>LC/APC</b> <b>Special</b>