

# Nano Speed™ 1x1 Fiberoptic Switch / On-Off Modulator

(Bidirectional)

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

## Product Description

The NS 1x1 fiber optic switch/on-off modulator is a 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 fiberoptic 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.

The device can be driven by a cost effective circuit with 12V input voltage and a 0-5 V control signal.



## Performance Specifications

NS 1x1 Switch/Modulator	Min	Typical	Max	Unit
Operation Wavelength	780		2000	nm
Insertion Loss <sup>1</sup>		0.6	1.0	dB
Isolation	20	25		dB
Polarization Dependent Loss		0.15	0.35	dB
IL Temperature Dependency		0.25	0.5	dB
Polarization Mode Dispersion		0.1	0.3	ps
Return Loss	45	50		dB
Response Time (Rise, Fall)			300	ns
Repetition Rate**	DC	5		KHz
Operating Temperature	-5		70	°C
Optical Power Handling***		300		mW
Storage Temperature	-40		85	°C
Package Dimension		57.5x7.35x9.7		mm

\* Driver kit is recommended  
 \*\* Standard driver. High repetition rate (up to 500 KHz) is available with special circuit.  
 \*\*\* High power version (up to 5W) available.  
 1. Excluding connectors, Max 1dB for 1310nm and 1550nm, 1.4dB for other wavelengths.

### Features

- Solid-State high speed
- Ultra-high reliability
- Low insertion loss
- Compact
- Low cost
- Low power consumption
- Simple driver

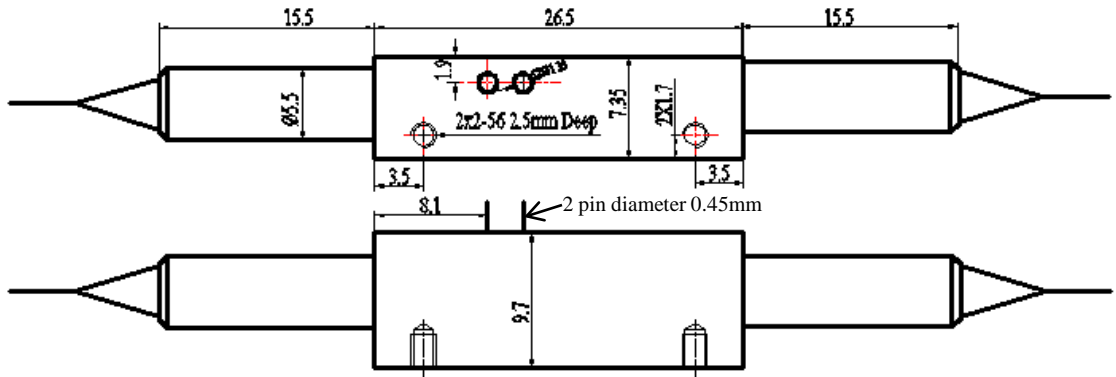
### Applications

- Optical blocking
- Configurable operation
- Instrumentation

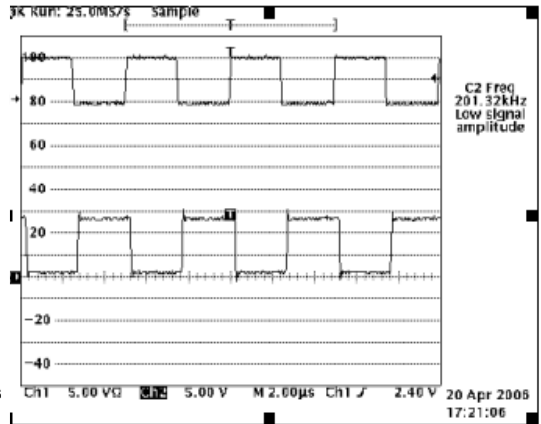
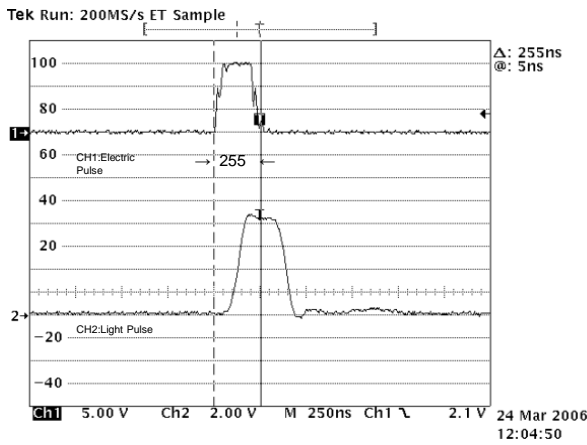


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## Mechanical Dimensions (mm)

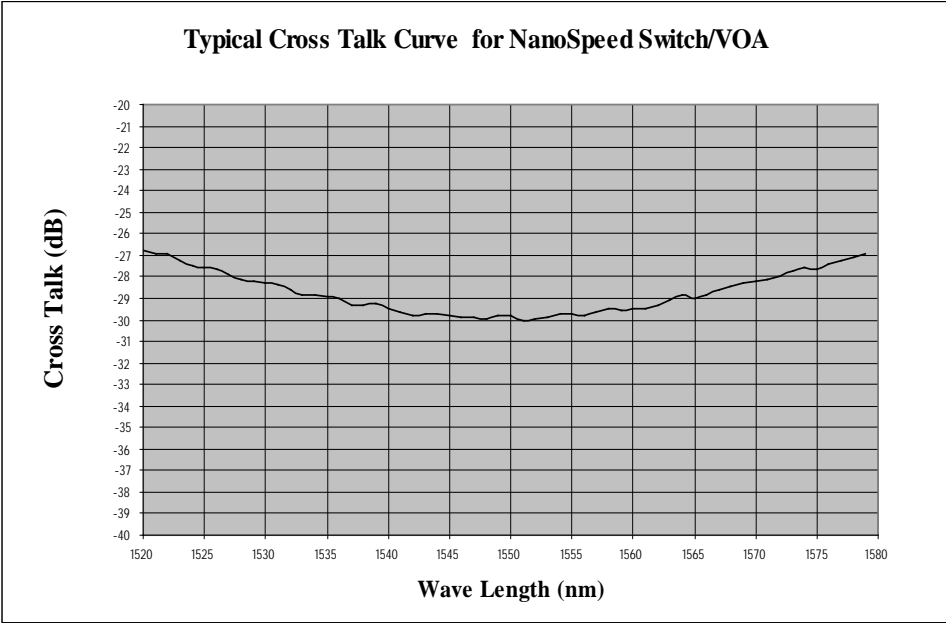


## Speed and Repetition Measurement



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## Bandwidth Measurement



## Ordering Information

NSSW-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	1	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type	Wavelength	Configuration	Package	Fiber Type		Fiber Length	Connector		
1x1=11	1060=1 L Band=2 1310=3 1410=4 1550=5 650=6 780=7 850=8 Special=0			SMF-28=1 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=7 Special=0		