

# NanoSpeed™ Fiberoptic Polarization Switch (Preliminary, Bidirectional)

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

## Product Description

The NanoSpeed™ Series polarization switch can quickly switch the incoming SOP between two orthogonal polarization states (SOPs). This is achieved using patented non-mechanical configurations with solid-state all-crystal designs, which eliminates the need for mechanical movement and organic materials and activated via an electrical control signal. The NS fiber optic switch is a fast switch device featuring very low loss, fast response, ultra-high reliability and high optical power handling. The input is PM fiber. the output could be either PM or SM fiber. For PM fiber, the polarizations is aligned with slow axis.

Agiltron's SWDR driver is highly recommended to this polarization switch, by which the switch can be driven by a 0-5V control signal.

## Performance Specifications

NS Polarization Switch	Min	Typical	Max	Unit
Central Wavelength	780		2100	nm
Insertion Loss <sup>[1]</sup>	1900~2100nm	0.7	1.1	dB
	1260~1650nm	0.6	1.0	dB
	960~1260nm	0.8	1.2	dB
	760~960nm	1.0	1.4	dB
SOP Tolerance <sup>[1]</sup>		±2.5	± 4.5	Degree
Extinction ratio <sup>[2]</sup>	20			dB
Return Loss	45	50		dB
Response Time (Rise, Fall)			300	ns
Repetition Rate <sup>[3]</sup>		5	100	KHz
Operating Temperature	-5		70	°C
Optical Power Handling		300	500	mW
Storage Temperature	-40		85	°C
Fiber Type	Panda PM fiber and/or SMF28			
Package Dimension		TBD		mm

[1]: Measured without connectors.

[2]: In input PM fiber.

[3]: 500kHz driver is available in the special driver

## Features

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

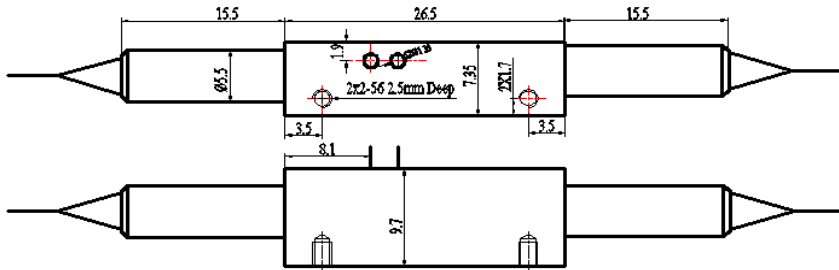
## Applications

- Optical blocking
- Light path re-directing
- Instrumentation



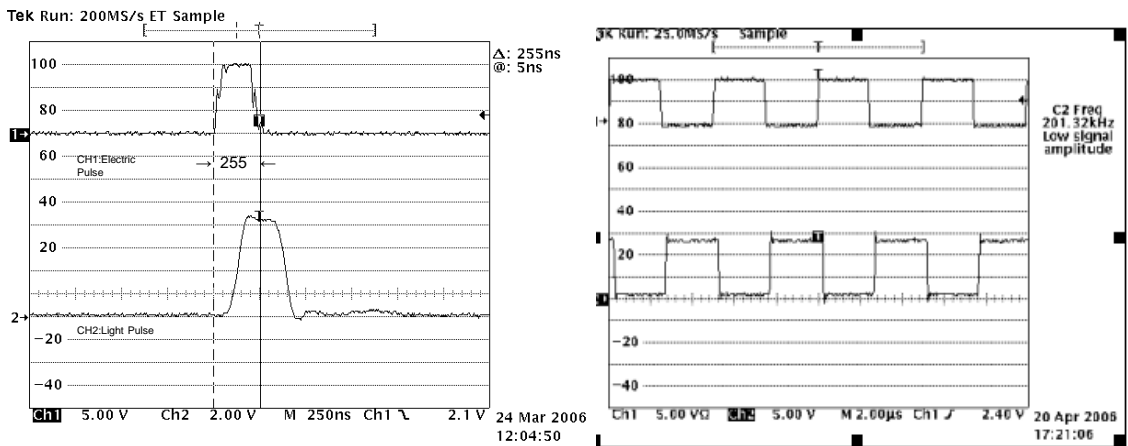
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## Typical Mechanical Dimensions (mm)



- [1] Package for wavelength < 1650nm
- [2] Please call for wavelength > 1750nm

## Speed and Repetition Measurement



## Ordering Information

NSPS-	33	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type	Wavelength	Configuration	Fiber Type	Fiber Length	Connector		
Polarization switch	1060=01 1310=03 1550=05 1650=06 1800=18 1900=19 2000=20 780=07 850=08 980=09 Special = 0	PM/PM=1 PM/SM=2	PM1550=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=7 Special=0	