NanoSpeed™ Fiberoptic Polarization Switch (Preliminary)

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

Product Description

The NaonSpeed™ 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.

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

Performance Specifications

NS Polarization Switch		Min	Typical	Max	Unit
Central Wavelength		780		2100	nm
Insertion Loss[1]	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 [1]			±2.5	± 4.5	Degree
Extinction ratio [2]		20			dB
Return Loss		45	50		dB
Response Time (Rise, Fall)				300	ns
Driver Repeat Rate	5kHz driver	DC	5		kHz
	100kHz driver	DC	100		kHz
	500kHz driver	DC	500		kHz
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.

RoHS Compliant

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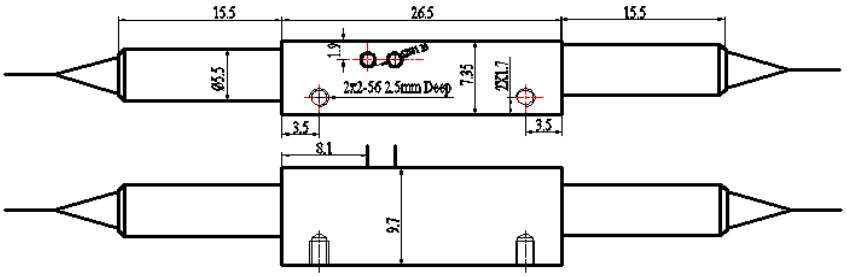
NanoSpeed™ Fiberoptic Polarization Switch

Typical Mechanical Dimensions (mm)



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

Optical Path Driving Table

Optical Path	TTL Signal
No polarization change	L (< 0.2V)
90^0 Polarization rotation	H (> 3.5V)

Driving Board Selection

Maximum Repetition Rate	Part Number (P/N)
5kHz	SWDR-11a251111
100kHz	SWDR-11a261111
500kHz	SWDR-11a291111

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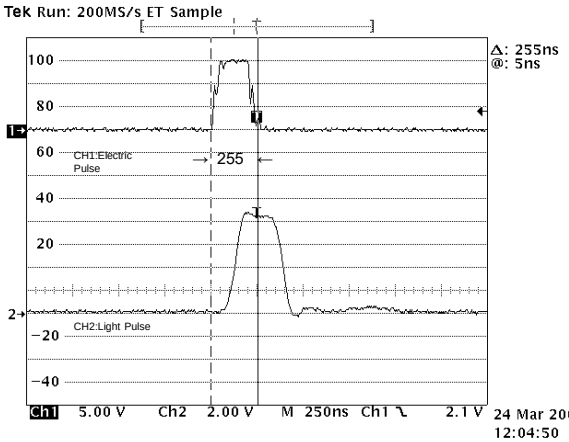
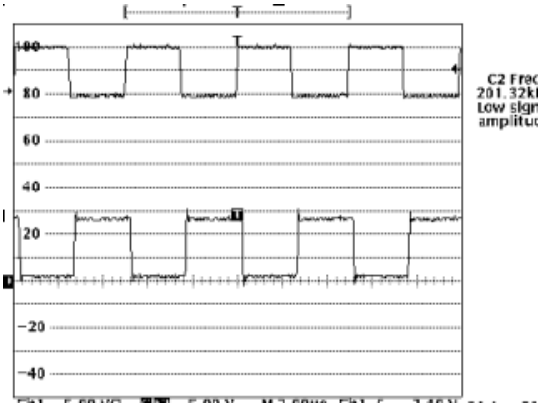
Speed and Repetition Measurement





Ordering Information

NSSW-	33	☐☐	☐	☐	☐	☐	☐
	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

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