

NanoSpeed™ Fiber Coupled Q-Switch (4ns rise time, 400 to 2000nm, high optical power)

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

Product Description

The NS fiber coupled Q switch features low optical loss, ultra-fast transient time, high optical power handling, wide temperature operation, and available for wide wavelength from 400 to 2000nm. The NS fiber optic switch is designed to meet the most demanding switching requirements of continuous operations over 25 years and non-mechanical ultra-high reliability.

The NS Series switch is controlled by 5V TTL signals with a specially designed electronic driver.



Features

- Solid-State
- High speed
- Ultra-high reliability
- Low insertion loss
- Compact

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	
Cross Talk ^[2]		18	25	35	dB
PDL (SMF Switch only)			0.15	0.3	dB
PMD (SMF Switch only)			0.1	0.3	ps
ER (PMF Switch only)		18	25		dB
IL Temperature Dependency			0.25	0.5	dB
Return Loss		45	50	60	dB
Optical Rise Time ^[3]			4	10	ns
Optical Fall Time ^[3]				500	ns
Driver Repeat Rate		DC	20		Hz
		DC	20000		
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. For other wavelengths, please contact us.

[2] Cross talk is measured at 500kHz, which may be degraded at the higher repeat rate.

[3] It is defined as the rising or fall time between 10% and 90% of optical intensities. This value is related to the driver choice

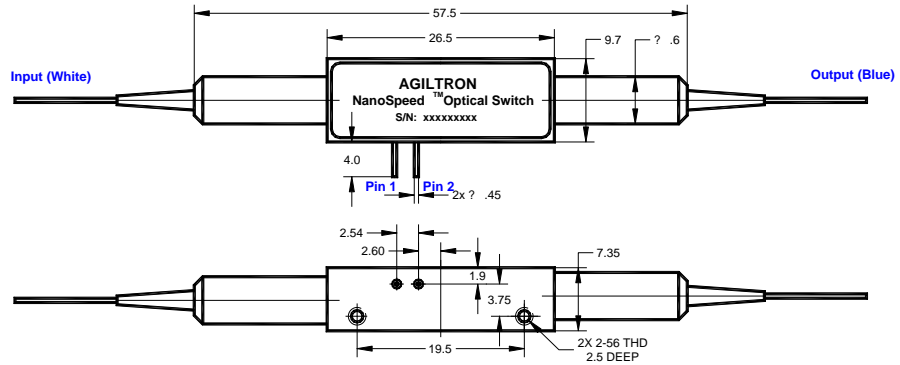
[4] Defined at 1310nm/1550nm. For the shorter wavelength, the handling power may be reduced, please contact us for more information.

Applications

- Optical blocking
- Configurable operation
- Instrumentation

NanoSpeed™ Q Switch

Mechanical Dimensions (Unit: mm)



Optical Path Driving Table

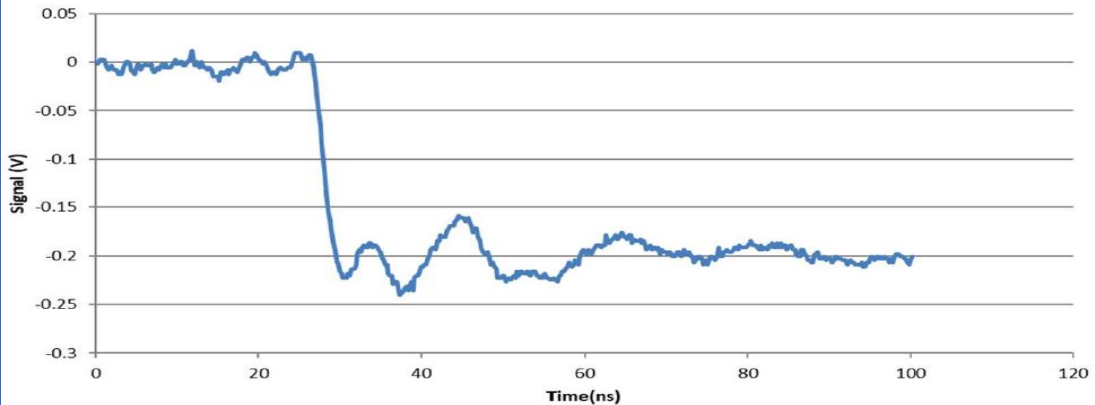
1x1 Optical Path	TTL Signal
ON for normally-open, OFF for normally-close	L (< 0.8V)
OFF for normally-open, ON for normally-close	H (> 3.5V)
* Valid only with SWDR series driver	

Driving Board Selection

Rise/Fall Time	Repetition Rate	Order Code
4ns/500ns	20Hz	1
8ns/	20KHz	2
8ns/8ns	50KHz	3

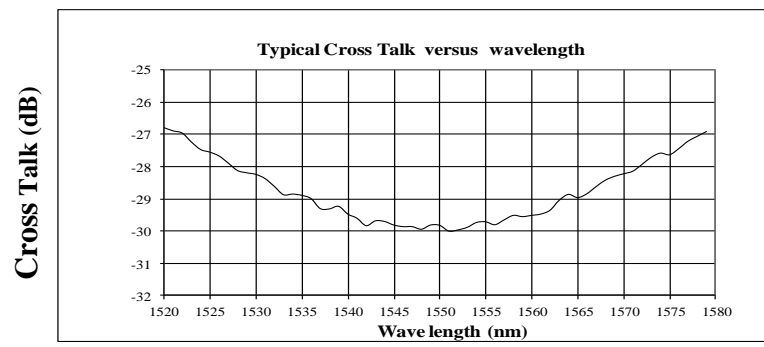
NanoSpeed™ Q Switch

Typical Fast Switching Measurement



Note: optical trace

Typical Bandwidth Measurement



Ordering Information

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	1 1							
	Type	Wavelength	Temperature range	Repetition Rate	Fiber Type	Fiber Length	Connector	
NFQS = Normal power version		1060=1 2000=2 1310=3 1480=4	Standard=1 Large = 2	20Hz=1 20kHz=2 50kHz=3	SMF-28=1 HI1060=2 HI780=3 PM1550/400=4 PM1550/250=5 PM850=8 PM980=9 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/PC=7 LC/APC=8 Special=0
NFQH= High Power version		1550=5 1625=6 780=7 850=8 650=E 550=F 400=G 1565-1620=L Special=0						