

# NanoSpeed™ High Power Variable Optical Attenuator/Modulator (Bidirectional)

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

## Product Description

The NS Series Variable Fiber Optic Attenuator provides electrical control of optical power. This is achieved using a patent pending non-mechanical configuration and activated via a voltage electrical control signal. The solid-state optical crystal design eliminates mechanical movement and organic materials. The NS Series Variable Optical Attenuators are designed to meet the most demanding operation requirements of ultra-high reliability and fast response time with minimal mechanical footprint. Agiltron also offers customized electronic designs to meet special control requirements and applications. The switch is bidirectional.

The NS Series VOA is available in either normally-transparent or normally-opaque configurations.

Agiltron's PCB driver listed in the web is recommended to operate this device, featuring high efficiency and low cost with 12VDC power and 0-5V control input.

## Performance Specifications

NH Variable Optical Attenuator	Min	Typical	Max	Unit
Central Wavelength	900		1800	nm
Insertion Loss <sup>[1]</sup>	1260-1800nm	0.6	1.0	dB
	960-1260nm	0.8	1.3	dB
	850-960nm	1.0	1.5	dB
Polarization Dependent Loss		0.1	0.3	dB
Return Loss	45	50		dB
Attenuation Range	20	28	36	dB
Response Time (Rise, Fall)			300	ns
Repetition Rate <sup>[2]</sup>	DC	5	100	kHz
Modulation Rate <sup>[3]</sup>	0.1		5	MHz
Resolution		Continuous		dB
Operating Optical Power <sup>[4]</sup>			5	W
Operating Temperature	-5 ~ 70			°C
Storage Temperature	-40 ~ 85			°C
Package Dimension		51.9X8.2X5.95		mm

[1] Excluding connectors.

[2] 5kHz repeat rate is in the standard Agiltron's driver. High repetition rate of 100 kHz with 100% modulation depth is available with special circuit, please call us.

[3] Special circuit for narrow frequency range, maximum modulation depth is 5-10%

[4] It is defined at 1550nm. Please call us for other wavelength

## Features

- Solid state
- High Speed
- High Reliability
- Low Insertion Loss
- Compact

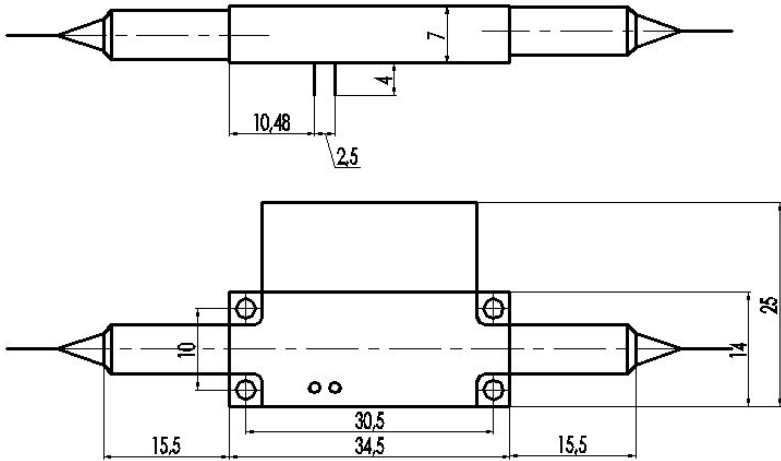
## Applications

- Power Control
- Power Regulation
- Power Balance
- Instrumentation

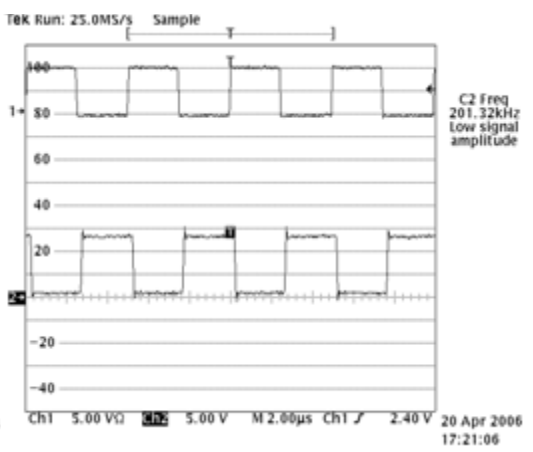
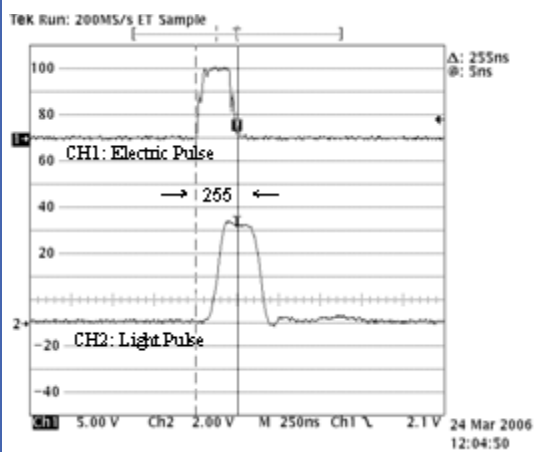


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## Mechanical Footprint Dimensions (Unit:mm)

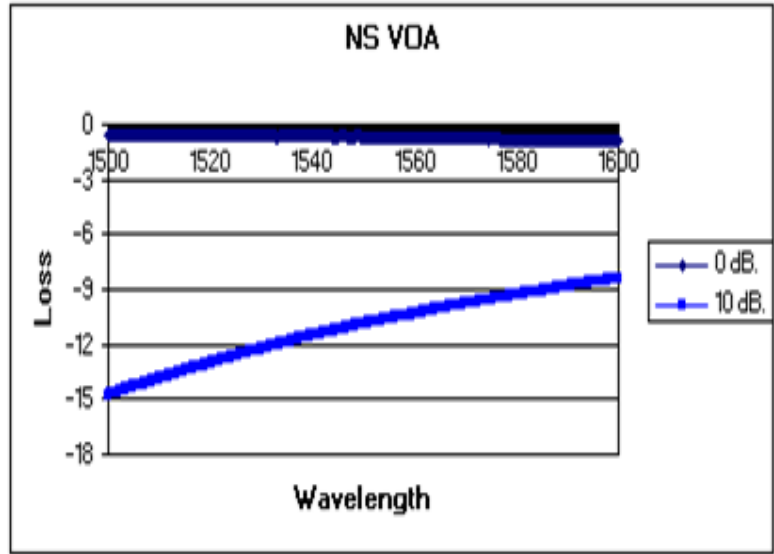


## Speed and Repetition Measurement



# NanoSpeed™ High Power Variable Optical Attenuator/Modulator

Specify wavelength dependent loss @ 10dB attenuation



## Ordering Information

NHOA-	3 2	<input type="checkbox"/>	<input type="checkbox"/>	1	1	<input type="checkbox"/>	<input type="checkbox"/>	1*
		Wavelength	State	Package	Fiber Type		Fiber Length	Connector
		1060=1 L Band=2 1310=3 1550=5	Transparent=1 Opaque=2		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	

\* Agiltron provide high power connector, please call.