



NanoSpeed™ Variable Fiber Optical Attenuator Array (8 Channels) (SMF, PMF, Bidirectional)

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

Product Description

The Nano-speed Premium Variable Fiber Optical Attenuator (NPOA) 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 NP 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 NPOA is bidirectional. The NP Series VOA is available in either normally-transparent in which the light passing through without the applying a voltage or normally-opaque in which the light is blocked without the applying of a voltage. The attenuation level is related to the stage. The response speed is related to the attenuation level and driver power (repetition rate). Small attenuation can reach MHz response.

The NP Series VOA is mounted on a specially designed electronic driving PCB board with a 0-5V control input and having performance optimized for various repetition rate.

Features

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

Performance Specifications

NanoSpeed Series VOA Aray	Min	Typical	Max	Unit
Central wavelength ^[1]	960		1650	nm
Insertion Loss ^[2]	1260-1650nm	0.6	1.0	dB
	960-1100nm	0.8	1.3	
Attenuation Range	20	28	36	dB
PDL (SMF VOA only)		0.1	0.3	dB
PMD (SMF VOA only)		0.1	0.3	ps
ER (PMF VOA only)	18	25		dB
Resolution		Continuous		dB
Return Loss	45	50	60	dB
Response Time (Rise, Fall)	30		300	ns
Fiber Type	SMF-28, Panda PM, or equivalent			
Repeat Rate	5kHz driver	DC	5	kHz
	100kHz driver	DC	100	
Modulation rate ^[3]	0.1		5	MHz
Optic power Handling ^[4]		300		mW
Operating Temperature ^[5]	-5		70	°C
Storage Temperature	-40		85	°C

[1] For other wavelength, please contact us.

Operation bandwidth is +/- 25nm approximately at 1550nm central wavelength.

[2] Measured without connectors.

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

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

[5] -40 premium version is also available.

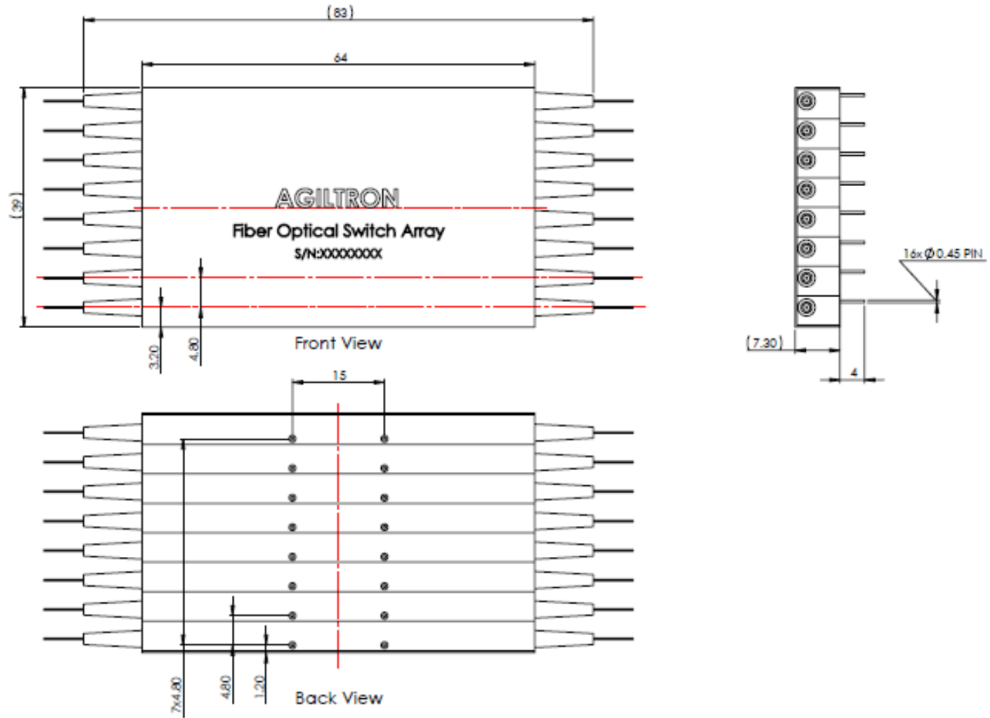
Applications

- Optical blocking
- Configurable operation
- Instrumentation



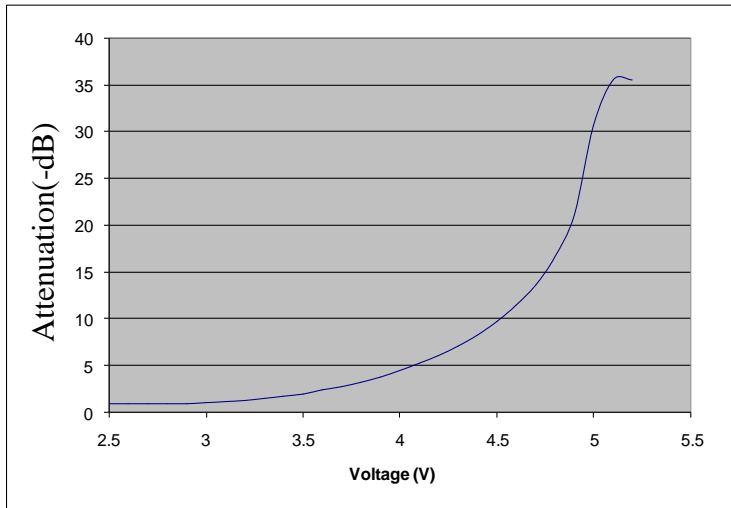
NanoSpeed™ Variable Fiber Optical Attenuator Array

Mechanical Dimensions (mm)



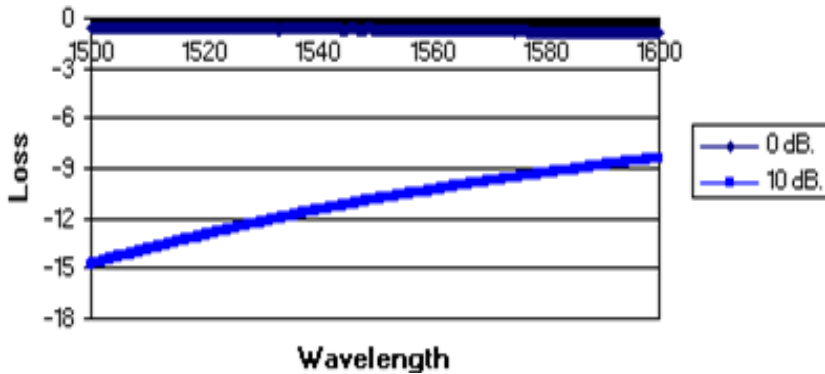
*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Typical Attenuation versus Voltage



NanoSpeed™ Variable Fiber Optical Attenuator (SMF, PMF, Bidirectional)

Typical WDL @10dB attenuation



Ordering Information

Prefix	Type	Wavelength	Configuration	Fiber Type	Fiber Cover	Fiber Length	Connector
NVOA-	0 8	1060nm=1 L Band=2 1310nm=3 1410nm=4 1550nm=5 Special=0	Transparent & single stage = 11 Opaque & single stage = 21 Special = 00	SMF-28=1 HI1060=2 PM1550=B 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 Duplex LC=8 LC/APC=9 Special=0

NOTE:

“transparent” means no attenuation without applying a controlling voltage, the “opaque” means the highest attenuation without applying a controlling voltage.

Operation Manual

1. Connect a control signal to the SMA connector on the PCB.
2. Attach the accompanied power supply (typically a wall-pluggable unit).
3. The device should then function properly.

Note: Do not alter device factory settings.

