

**BUY NOW** 

# NanoSpeed™ Fiber Optical Resonant Phase Modulator (5MHz, High Power, Bidirectional)

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

## Product Description

The NS Series fiber optic resonance modulator features fast repetition at a fixed resonance frequency of about 5 Mhz, low optical loss, and high optical power handling. This is achieved using a patented electro-optical configuration with a built-in high Q resonant circuit. The devices use special electro-optical crystals of high stability that increase power handling and reduce drift/darkening. The NS fiber optic devices meet the most demanding switching requirements of continuous operations over 25 years and non-mechanical ultra-high reliability.



## Performance Specifications

Parameter	Min	Typical	Max	Unit
Insertion Loss [1]	1900-2200nm	1.3	1.9	dB
	1260-1650nm	1	1.5	
	960-1100nm	1.5	2	
	780-960nm	1.7	2.2	
Phase Modulation [2]	0		180	degree
Durability	10 <sup>14</sup>			cycles
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	1.5	dB
Return Loss	45	50	60	dB
Repetition Rate		20	100	MHz
Optic power Handling [4]	ormal power version	300		mW
	igh power version		5	W
Operating Temperature	Standard	-5	75	°C
	arge range version	-30	85	
Storage Temperature	-40		100	°C

[1] Measured without connectors.

Wavelength <850nm or > 1700nm is available only in the special version with a long lead time.

[2] Cross talk is measured at 100kHz, which may be degraded at a higher repeat rate.

[3] It is defined as the rising or fall time between 10% and 90% of optical intensities.

[4] Defined at 1310nm/1550nm. For the shorter wavelength, the handling power may be reduced, please contact us for more information. High power version is available by incorporating fiber core enlargement (expensive).

## Features

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

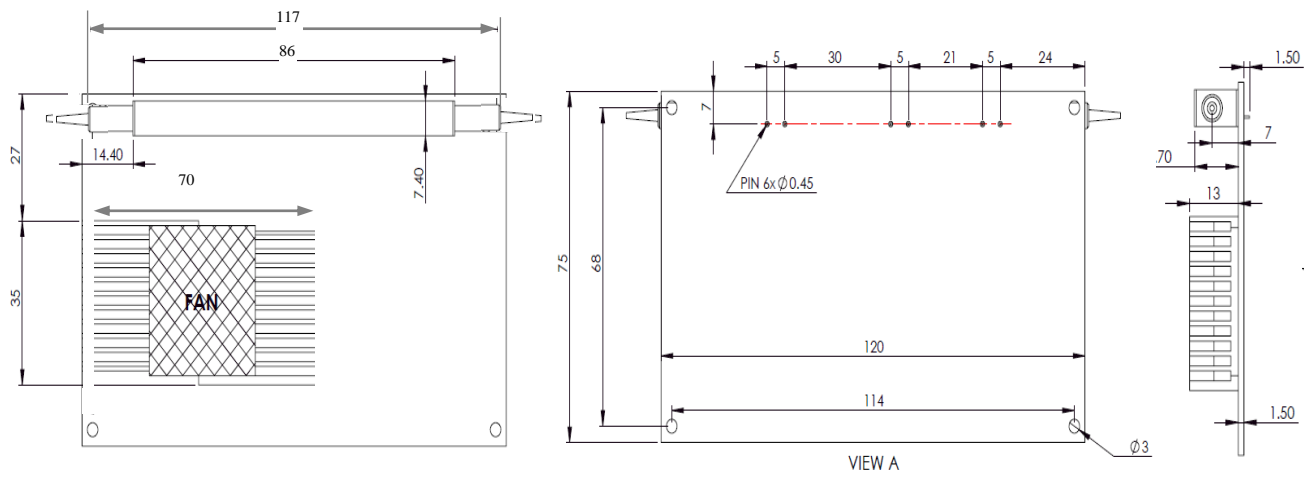
## Applications

- Laser Systems
- Reconfigurable Optics
- Instrumentations

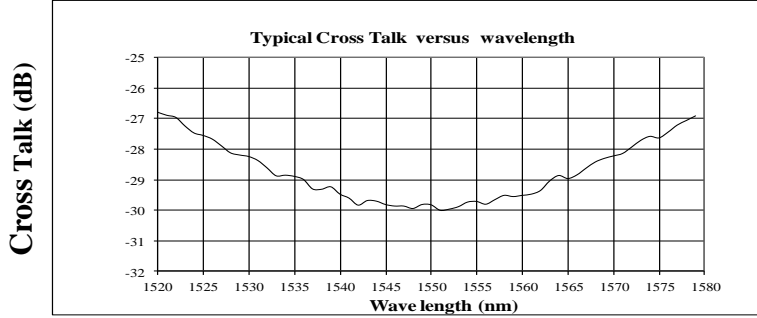
## Electrical Information

1. Self-contained tuned to the resonance
2. Power Input: 12V Wall pluggable (110-240 AVC)

## Mechanical Dimensions (mm)



## Typical Bandwidth Measurement



## Ordering Information

Prefix	Type	Wavelength	Power Handling <sup>[1]</sup>	Repetition Rate	Fiber Type	Fiber Cover	Fiber Length	Connector <sup>[2]</sup>
NSRP-	<input type="checkbox"/> 1x1=1 <input type="checkbox"/> 1x2=2 <input type="checkbox"/> 2x2=3	<input type="checkbox"/> 1060=1 <input type="checkbox"/> 2000=2 <input type="checkbox"/> 1310=3 <input type="checkbox"/> 1550=5 <input type="checkbox"/> 1625=6 <input type="checkbox"/> 780=7 <input type="checkbox"/> 850=8 <input type="checkbox"/> 650=E <input type="checkbox"/> Special=0	<input type="checkbox"/> Regular =1 <input type="checkbox"/> 500mw=2 <input type="checkbox"/> 5W =5	<input type="checkbox"/> 1MHz=01 <input type="checkbox"/> 2MHz=02 <input type="checkbox"/> 5MHz=05 <input type="checkbox"/> Special = 00	<input type="checkbox"/> SMF-28=1 <input type="checkbox"/> HI1060=2 <input type="checkbox"/> HI780=3 <input type="checkbox"/> PM1550=5 <input type="checkbox"/> PM850=8 <input type="checkbox"/> PM980=9 <input type="checkbox"/> Special=0	<input type="checkbox"/> Bare fiber = 1 <input type="checkbox"/> 900um tube=3 <input type="checkbox"/> Special=0	<input type="checkbox"/> 0.25m=1 <input type="checkbox"/> 0.5m=2 <input type="checkbox"/> 1.0 m=3 <input type="checkbox"/> Special=0	<input type="checkbox"/> None=1 <input type="checkbox"/> FC/PC=2 <input type="checkbox"/> FC/APC= 3 <input type="checkbox"/> SC/PC=4 <input type="checkbox"/> SC/APC=5 <input type="checkbox"/> ST/PC=6 <input type="checkbox"/> LC/PC=7 <input type="checkbox"/> LC/APC=8 <input type="checkbox"/> Special=0

[1]: Wavelength < 850nm or > 1700nm is available only in the special version with a long lead time  
 [2]: Please contact the sale about the high power connector for the NPHW version.

NanoSpeed™

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### Operation Manual

1. Attach and connect the accompanying power supply (a wall-pluggable unit).
2. The device should then function properly.

**Note:** Do not open the box and alter device factory settings.