NanoSpeed[TM] SM Variable Photonic Time Delay

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

Product Description

The NSTD Series Photonic Time Delay generates variable time delay by selectively routing optical signals through N (<=8) fiber segments whose lengths increase successively by a power of 2 to form a N bit digital delay line. The NSTD allows customers to splice each fiber loop, creating increments of ΔT, up to the maximum value T. The switching between each loop is achieved using a patented non-mechanical configuration. The solid-state configuration eliminates the need for mechanical movement and organic materials. The device is designed to meet the most demanding switching requirements of ultra-high reliability and fast response time.

Features

· High Resolution
· High Speed
· Non-Mechanical
· High Reliability

Applications

· Phase-Array Antennas
· Instrumentation

Performance Specifications

NSTD Series Photonic Delay Line	Min	Typical	Max	Unit
Central Wavelength	850		1610	nm
Bit resolution [1]		4	8	
Insertion Loss [2]		4.0	5.2	dB
Cross Talk	20	25		dB
Switching Time (fall, rise)		300	400	ns
Repetition Rate [3]			100	kHz
Delay Time Range	ns		μs	
PDL [4]		0.3	1.0	dB
Return Loss	45			dB
Fiber type	SM fiber or PM fiber			
Operating Temperature	0		60	ºC
Optical Power Handling [5]		500		mW
Storage Temperature	-5		85	ºC
Package Dimension [6]	19" mount rack			

[1]: TBD per customer's request.
[2]: Measured at 4-bit device, excluding the loss of long delay fibers. 1dB additional loss will be added per bit after 4-bit.
[3]: for each switching core.
[4]: Defined at 4-bit delay line
[5]: Measured at 1550nm.
[6]: Mount rack height will be determined based the final delay.

Nano Speed™ Variable Photonic Time Delay

Control Electronics

The standard electrical driver has USB and RS232 interfaces with Windows™ GUI. The power supply is AVC 100 ~ 240V.

The driver control interface can be customized to increase the delay repeat rate buy using TTL control through PIN connectors, please contact us.

Ordering Information

NSTD-	☐☐	☐	1	☐	☐	☐	0	☐
	Resolution	Wavelength	Configuration	Package	Fiber Type		Delay Range	Connector
	4 bits = 42 5 bits = 52 ...... 8-bits = 82 Special=00	850nm = 8 1060nm = 1 1310nm = 3 1550nm =5 Special=0	Standard = 1	19" rack = 2 Special = 0	SMF-28 = 1 HI1060 = 2 HI780 = 3 PM1550=5 PM980 = 9 Special=0	Bare fiber=1 900um loose tube=3	Custom	None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC=7 Special=0