

Nano Speed™ 4-Bit 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 4 fiber segments whose lengths increase successively by a power of 2 to form a 4 bit digital delay line. Since each switching element allows the signal to either connect or bypass a fiber segment, a delay T may be inserted, which can take any value (in 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

- 4-Bit Resolution
- High Speed
- Non-Mechanical
- High Reliability
- Low Insertion Loss
- Low Power Consumption

Applications

- Phase-Array Antennas
- Instrumentation

Performance Specifications

NSTD Series Photonic Delay Line	Min	Typical	Max	Unit
Wavelength band	1530	1550	1570	nm
Insertion Loss		5.0	6.0	dB
Cross Talk	20	25	30	dB
Switching Time(fall, rise)		300	400	ns
Repetition Rate		5	100	KHz
Delay Time Range	n		M	s
Polarization Dependent Loss		0.2	0.4	dB
Return Loss	50	55	60	dB
Operating Temperature	0		60	°C
Optical Power Handling		400		mW
Storage Temperature	-40		85	°C
Package Dimension		(L)280mmx(W)230		mm

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Electrical Driving Requirements

Evaluation kit, RS232 interfaces and Windows™ GUI available.

Ordering Information

NSTD-	4 2	<input type="checkbox"/>	2	1		<input type="checkbox"/>	0	<input type="checkbox"/>
	Type	Wavelength	Configuration	Package	Fiber Type		Delay Range	Connector
	4 Bits=42 Special=00	1550=5 Special=0			SMF-28=1 Special=0	Bare fiber=1 900um loose tube=3 Special=0	Custom	None=1 FC/PC=2 FC/APC=3 SC/PC=4 SC/APC=5 ST/PC=6 LC=7 Special=0