Solid State Variable Photonic Time Delay Module

(patent pending)

Product Description

The SSTD Series Photonic Time Delay Module selectively routes optical signals through N fiber segments whose lengths increase successively by a power of 2. The module therefore provides N bit resolution of digitally variable time delay with a maximum delay time defined by customer. This is achieved using a patented non-mechanical optical switching configuration and activated via an electrical control signal. Latching operation preserves the selected optical path after the drive signal has been removed. The solid-state configuration eliminates the need for mechanical movement and organic materials. The module has an input fiber and an out fiber. Front panel LEDs indicates the chosen fiber loops in each operation state. PM and high power versions are also available.

Features

- High Resolution
- High Speed
- Large Time Delay Range
- High Reliability
- Fail-Safe Latching
- Low Insertion Loss
- Low Power Consumption

Performance Specifications

SSTD Series Photonic Delay Line	Min	Typical	Max	Unit
Wavelength band	1520	1550	1580	nm
	1280	1310	1340	nm
Insertion Loss[1]		4.0	4.5	dB
Cross Talk	22	28		dB
Switching Time(fall, rise)		50	200	µs
Repetition Rate			1	KHz
Delay Time Range	n		m	s
Polarization Dependent Loss		0.25	0.45	dB
Polarization Mode Dispersion		0.1	0.2	ps
Return Loss	50	55		dB
Operating Temperature	0		60	°C
Optical Power Handling		400		mW
Storage Temperature	-40		85	°C
Fiber Type		Corning SMF-28		
Package Dimension[2]		(L)480x(W)340X(H)43		mm

Note:
[1].For 4 bits.
[2]. Only for time delay < 1 µs.

Applications

- Phase-Array Antennas
- Instrumentation

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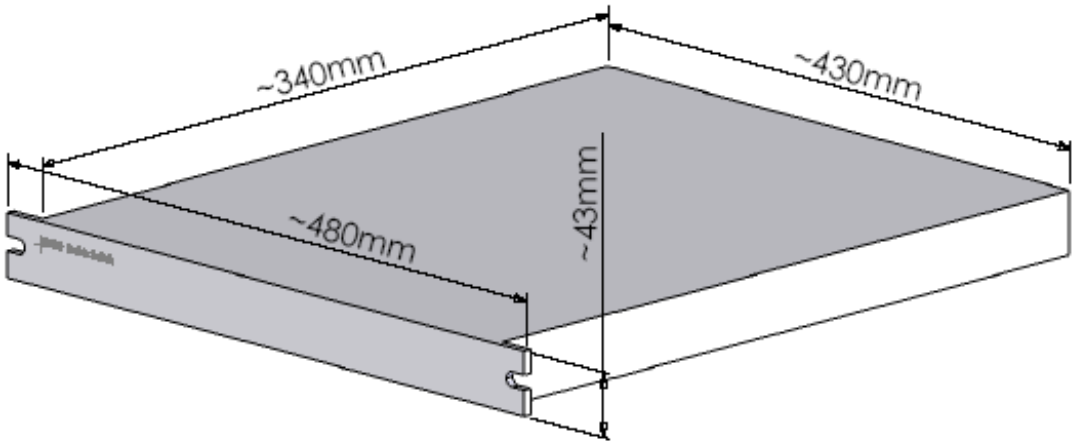
Revision: 060-12
05-29-14

Solid State Variable Photonics Time Delay Full System

Electrical Driving Requirements

USB or RS232 with PC GUI

Mechanical Dimensions (mm)



Ordering Information

SSTD-	☐☐	☐	1	2	1	☐	0	☐
	Type	Wavelength	Configuration	Package	Fiber Type		Delay Range	Connector
	04=4 Bit 05=5 Bit 08=8bit Special=00	1550=5 1310=3 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

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