

Integrated 5-Bit Solid State Variable Photonic Time Delay (Preliminary)

Product Description

The SSTD Series photonic time delay selectively routes optic signal through N delay segments whose delay time increase successively by a power of 2. Since each switching element allows the signal to either connect or bypass a delay segment, a delay T may be inserted which can take any value, in increments of ΔT , up to the maximum value T . This is achieved using a patent pending non-mechanical configuration and activated via an electrical control signal. Latching operation preserves the selected optical path after the drive signal has been removed. All solid-state configuration eliminates the need for mechanical movement and organic materials. The device is designed to meet the most demanding switching requirement of ultra-high reliability and fast response time.

Performance Specifications

Integrated Series SSTD	Min	Typical	Max	Unit
Wavelength band	1535	1550	1565	nm
	1290	1310	1330	
Insertion Loss (4-bit version)		3.5	4.5	dB
		(5-bit version) 4.5	5.5	
Cross Talk	22	28		dB
Switching Time(fall, rise)		50	200	μ s
Repetition Rate			2	kHz
Delay Time Range			310	ps
PDL (SMF version)		0.30	0.80	dB
ER (PMF version)	18			
Polarization Mode Dispersion		0.1	0.2	ps
Return Loss	50			dB
Operating Temperature	0		60	$^{\circ}$ C
Optical Power Handling		400		mW
Storage Temperature	-40		85	$^{\circ}$ C
Fiber Type	SMF-28 or Panda PM or equivalent			
Package Dimension	150x20x10			mm

For other wavelength, please contact us

Features

- High speed
- Non-mechanical
- high reliability
- Fail-safe latching
- low power consumption

Applications

- phase-array antennas
- Instrumentation

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Electrical Driving Requirements

Parameter	Minimum	Typical	Maximum	Unit
Switch Voltage	2.3	2.5	2.8	V
Switch Current	120	140	160	mA
Pulse Duration	0.2	0.3	0.5	ms

For each switching core

Evaluation kit with TTL and RS232 or USB interface and Windows™ GUI also available

Driving Table

Will be send with the final test report

Prototype Picture (4-bit version)



Ordering Information

SSTD-	8 8	<input type="checkbox"/>	<input type="checkbox"/>	1	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>
	Type	Wavelength	Configuration	Package	Fiber Type		Delay Range	Connector
		1550nm = 5 1310nm = 3 Special = 0	4-bit = 1 5-bit = 2	Standard = 1	SMF-28 = 1 PM Panda = 5 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