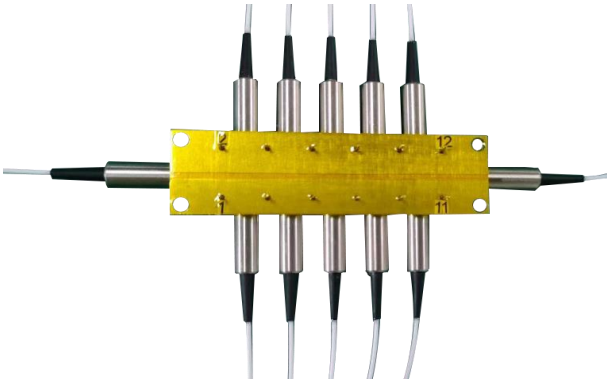
Solid-State Variable Fiber Optical Time Delay(SSOTD)

Features

- 8-Bit Resolution or more
- High Speed
- Non-Mechanical
- High Reliability
- Fail-Safe LatchingLow Insertion Loss
- Low Power Consumption



Applications

- Phase-Array Antennas
- Instrumentation

The SSOTD Series Photonic Time Delay provides a variable time delay over a long range up to the milisecond. This isaccomolished bv selectively,routina optical sianals throuoh N fiber seaments whose lenaths increase successively by apower of 2. Since each switching element allows the signal to either connect or bypass a fiber segment, a delay T may beinserted, which can take any value (in increments of A7) up to the maximum value T. This is achieved usingnon-mechanical configuration and activated via an electrical control signal. Latching operation preserves the selectedoptical path after the drive sianal has been removed. The solid-state configuration eliminates the need for mechanicalmovement and organic materials

The device is designed to meet the most demanding switching requirements of ultrahigh reliability and fast response time.

Specifications

Parameters	Unit	SSOTD
wavelength	nm	1520~1580 or 1280-1340
Insertion Loss*	dB	Typ: 0.8 Max:1.5
Return Loss	dB	>55
Crosstalk	dB	>30
Switch Time	uS	<150
Repetition Rate	KHz	1
Switch Type		Latching
Polarization Dependent Loss	dB	0.25
Fiber Segment Number	Loop	<8
Polarization Mode Dispersion	ps	0.15
Polarization Extinction Ratio(PM Fiber)	dB	>22
Operation Temperature	℃	-5~+70
Storage Temperature	℃	-40~+85
Weight	g	25
Dimension	mm	(L)46.8x(W)17x(H)9.5(+0.2)(4Bit) (L)74.5x(W)17x(H)9.5(+0.2)(8Bit)

*:Loss of each group of bits

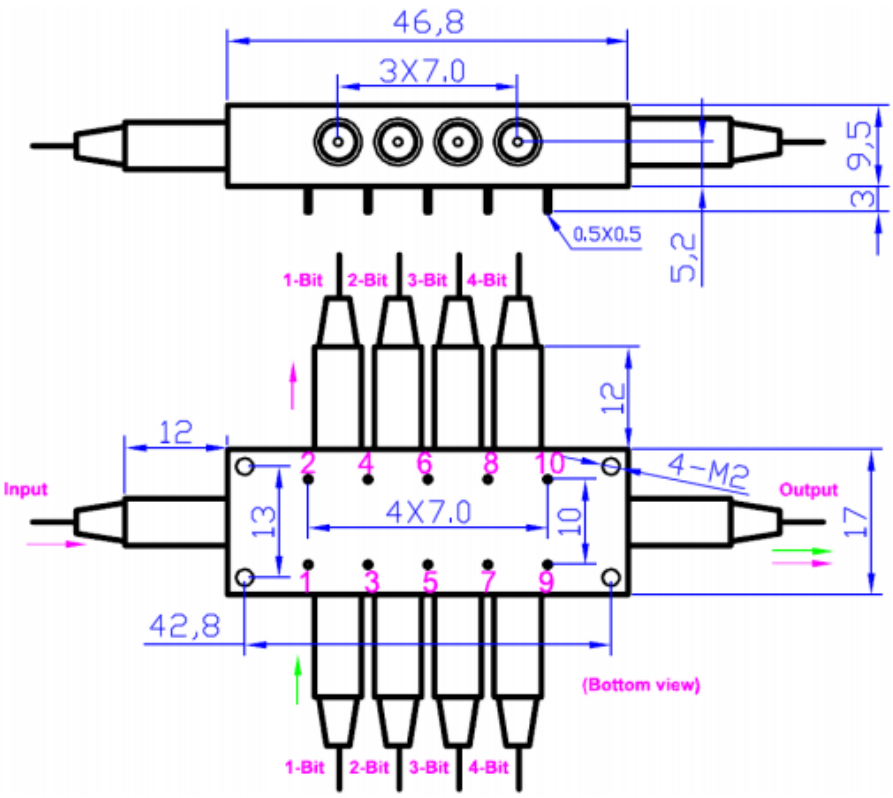
Electrical parameters

Parameters	Min.	Typical	Max.	Unit
Switch Voltage	2.3	2.5	3.3	V
Switch Current	140	150	160	mA
Pulse Duration	0.2	0.3	0.5	ms

Pins 4Bit

Switch Position	Pin Group 1		Pin Group 2		Pin Group 3		Pin Group 4		Pin Group 5	
	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10
Bypass	-	+	+	-	+	-	+	-	-	+
1-bit	+	-	-	+	+	-	+	-	-	+
2-bit	-	+	-	+	-	+	+	-	-	+
3-bit	-	+	+	-	-	+	-	+	-	+
4-bit	-	+	+	-	+	-	-	+	+	-

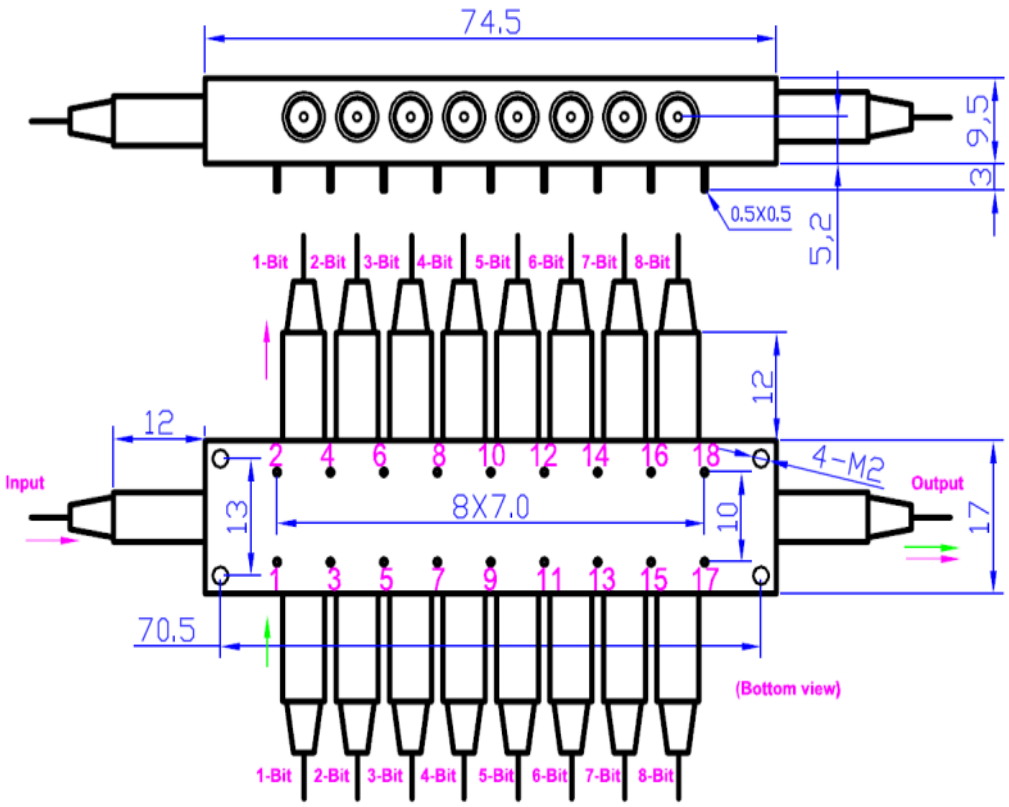
Dimension(mm)4Bit



Pins 8Bit

Switch Position	Pin Group 1		Pin Group 2		Pin Group 3		Pin Group 4		Pin Group 5		Pin Group 6		Pin Group 7		Pin Group 8		Pin Group 9	
	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12	Pin 13	Pin 14	Pin 15	Pin 16	Pin 17	Pin 18
Bypass	-	+	+	-	+	-	+	-	-	+	+	-	+	-	+	-	-	+
1-bit	+	-	-	+	+	-	+	-	-	+	+	-	+	-	+	-	--	+
2-bit	-	+	-	+	-	+	+	-	-	+	+	-	+	-	+	-	-	+
3-bit	-	+	+	-	-	+	-	+	-	+	+	-	+	-	+	-	-	+
4-bit	-	+	+	-	+	-	-	+	+	-	+	-	+	-	+	-	-	+
5-bit	-	+	+	-	+	-	+	-	+	-	+	-	+	-	+	-	-	+
6-bit	-	+	+	-	+	-	+	-	-	+	+	-	+	-	+	-	-	+
7-bit	-	+	+	-	+	-	+	-	-	+	+	-	+	-	-	+	-	+
8-bit	-	+	+	-	+	-	+	-	-	+	+	-	+	-	-	+	+	-

Dimension(mm)4Bit



▣ Ordering Information: SSOTD--A－B－C－D－E－F－G

A	B	C	D	E	F
Mode	Wavelength	Fiber Type	Fiber Diameter	Fiber Length	Connector
04:4-Bit 05:5-Bit 06:6-Bit 07:7-Bit 08:8-Bit	13: 1310nm 15:1550nm	SMO9:SMF-28 PM13:PM1310 PM15:PM1550	25：50um 90:900um	05:0.5m 10:1.0m 15:1.5m	oo:None FP: FC/PC FA: FC/APC SP: SC/PC SA: SC/APC LP:LC/PC LA: LC/APC