

## 6 Bit Solid-State Variable Fiber Optical Time Delay(SSOTD)

The SSOTD Series Photonic Time Delay provides a variable time delay over a long range up to the millisecond. This is accomplished by selectively routing optical signals through N fiber segments whose lengths increase successively by a power of 2. 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  $\Delta T$ ) up to the maximum value T. This is achieved using non-mechanical 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 device is designed to meet the most demanding switching requirements of ultrahigh reliability and fast response time.

### Features

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

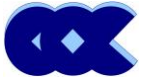
### Applications

- Phase-Array Antennas
- Instrumentation

### Specifications

Parameters	Unit	6 Bit
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)68.4×(W)17.2×(H)9.5(±0.2)

\*:Loss of each group of bits



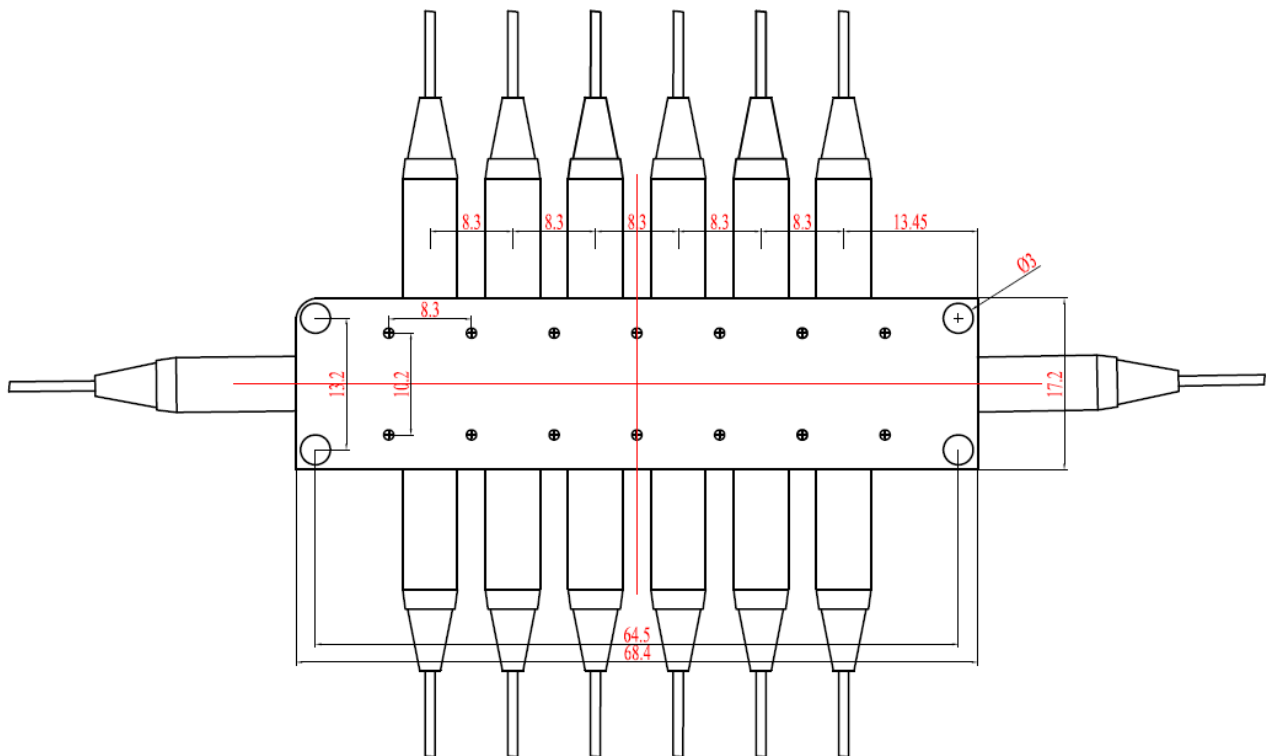
■ **Electrical parameters**

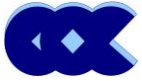
Parameters	Min.	Typical	Max.	Unit
Switch Voltage	4.8	5	5.5	V
Switch Current	140	150	160	mA
Pulse Duration	0.2	0.3	0.5	ms

■ **Pins**

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

■ **Dimension (mm)**





Ordering Information: **SSOTD-A-B-C-D-E-F**

A	B	C	D	E	F
Mode	Wavelength	Fiber Type	Fiber Diameter	Fiber Length	Connector
04:4-Bit	13: 1310nm	SM09:SMF-28	25:250um	05:0.5m	OO:None
05:5-Bit	15: 1550nm	PM13:PM1310	90:900um	10:1.0m	FP: FC/PC
06:6-Bit		PM15:PM1550		15:1.5m	FA: FC/APC
07:7-Bit					SP: SC/PC
08:8-Bit					SA: SC/APC
					LP: LC/PC
					LA: LC/APC