

## 1×N(N≤16) MEMS Optical Switch Mini Device



### Performance Specifications

Parameters	Specifications		Unit
	Single Mode	Multimode	
Wavelength Range	1260~1650	850±20 or 1310±20 or 1550±20	nm
Test Wavelength	1310/1550	850/1310/1550	nm
Insertion Loss <sup>1,2,3</sup>	0.6(Typ.) 0.8(Max.) N≤8 1.0(Typ.) 1.6(Max.) N≤16	0.8(Typ.) 1.0(Max.) N≤8 1.0(Typ.) 1.5(Max.) N≤12	dB
Polarization Dependent Loss <sup>1,2</sup>	≤0.15		dB
Wavelength Dependent Loss <sup>2</sup>	≤0.3		dB
Crosstalk <sup>1,2,3</sup>	≥50	≥30	dB
Return Loss <sup>1,2</sup>	≥40	≥25	dB
Repeatability <sup>5</sup>	≤±0.05		dB
Power Supply	4.75~12.5		V
Durability	≥10 <sup>9</sup>		Cycles
Switch Time	≤20 (Typical 15ms)		ms
Transmission Power	500		mW
Operating Temperature	-5~+70		°C
Storage Temperature	-40~+85		°C
Fiber Length	1.0±0.05 or Customized		M
Connector	Customized		
Package size	(Type A) 34(L) x 16(W) x 9.2(H) ± 0.2		mm

\*Notes: 1.Within operating temperature and SOP, MM CPR>16.

2.Excluding connectors.

3.Power off isolation same as cross-talk.

4.WDL is specified in ±20 nm of 1550nm @23°C.

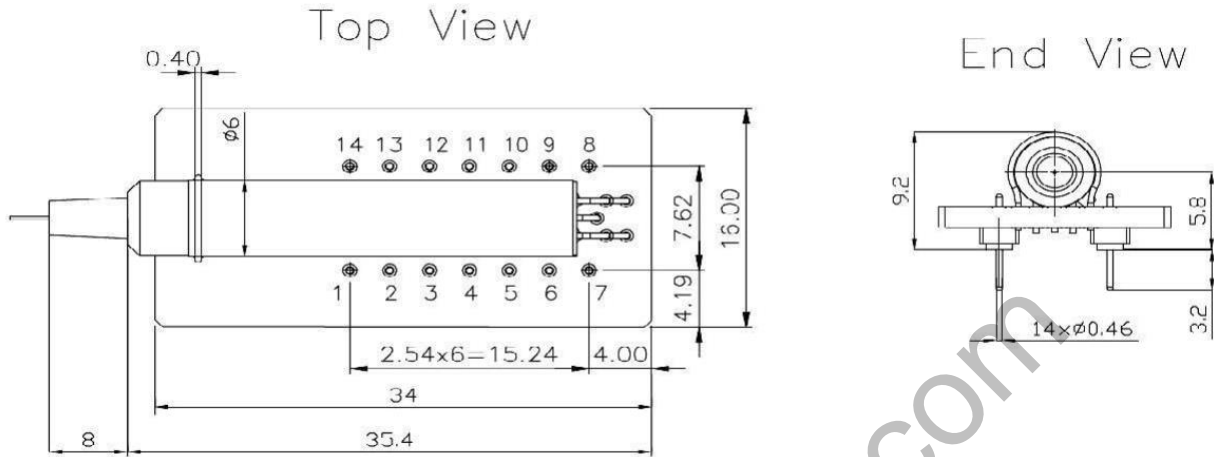
5.Repeatability is defined after 100 cycles.

**Pins**
**TTL/UART**

Pin	Signal Name	Description	I/O	Specifications	Unit
1	NC	Not Connect			
2	VCC	DC Power Supply	Power	4.75~12.5	VDC
3	STROBE	Strobe signal, The falling edge of the effective	IN	TTL/ LVTTTL	
4	GND	Ground	Power		
5	D0	Data 0 Input	IN	TTL/ LVTTTL	
6	D1	Data 1 Input	IN	TTL/ LVTTTL	
7	D2	Data 2 Input	IN	TTL/ LVTTTL	
8	NC	Not Connect			
9	TXD	UART Serial Data Output	OUT	TTL/ LVTTTL	
10	RXD	UART Serial Data Input	IN	TTL/ LVTTTL	
11	GND	Ground	Power		
12	NC	Not Connect			
13	D3	Data 3 Input	IN	TTL/ LVTTTL	
14	/RESET	Active-low reset	IN	TTL/ LVTTTL	

**I2C/UART**

Pin	Signal Name	Description	I/O	Specifications	Unit
1	NC	Not Connect			
2	VCC	DC Power Supply	Power	4.75~12.5	VDC
3	NC	Not Connect			
4	GND	Ground	Power		
5	A0	I <sup>2</sup> C Address A0	IN	TTL/ LVTTTL	
6	SDA	I <sup>2</sup> C Data	IN	TTL/ LVTTTL	
7	SCL	I <sup>2</sup> C Clock	IN	TTL/ LVTTTL	
8	NC	Not Connect			
9	TXD	UART Serial Data Output	OUT	TTL/ LVTTTL	
10	RXD	UART Serial Data Input	IN	TTL/ LVTTTL	
11	GND	Ground	Power		
12	NC	Not Connect			
13	A1	I <sup>2</sup> C Address A1	IN	TTL/ LVTTTL	
14	/RESET	Active-low reset	IN	TTL/ LVTTTL	

**Mechanical Dimensions**

**Package Type A**
**Ordering Information**
**MS-S4-1xN- A- B-C-D-E-F-G**

(MS:MEMS Optical Switch; S4:Series 4)

N	A	B	C	D	E	F	G
Output Number	Fiber Type	Package Type	Test Wavelength	Tube Type	Fiber Length	Connector	Interface
4:4 8:8 12:12 16:16 X: Others	<b>SM</b> :SM,9/125 <b>M5</b> :MM,50/125 <b>M6</b> :MM,62.5/125 <b>X</b> : Others	<b>A</b> :Type A	<b>850</b> :850nm <b>1310</b> : 1310nm <b>8513</b> :850&1310nm <b>1550</b> : 1550nm <b>1315</b> :1310&1550nm <b>X</b> :Others	<b>25</b> :250um <b>X</b> : Others	<b>05</b> : 0.5m±5cm <b>10</b> : 1.0m±5cm <b>15</b> : 1.5m±5cm <b>X</b> : Others	<b>NO</b> :None <b>FP</b> : FC/PC <b>FA</b> : FC/APC <b>SP</b> : SC/PC <b>SA</b> :SC/APC <b>LP</b> : LC/PC <b>LA</b> : LC/APC <b>X</b> : Others	<b>TTL</b> : TTL/ UART <b>I2C</b> : I <sup>2</sup> C/ UART