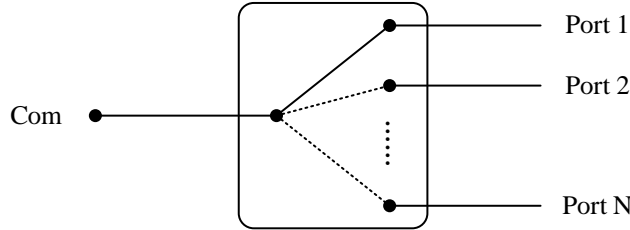


Product: Polarization Maintaining MEMS 1 × N (N≤8) Optical Switch

Part Number	Spec Number	Version	Date
PMSWXXXXXXXXXXXX	S037	Rev 01	02/10/2024

1 Function Diagram

The 1 × N MEMS optical switch is based on a coaxial design where a single MEMS mirror redirects light from a common fiber to one of N ports.



2 Specifications

2.1 Environment Conditions

Item	Parameters	Symbol	Min	Typ	Max	Units	Note
1.	Operating Temperature	Top	0		70	°C	
2.	Storage Temperature	Tstor	-40		85	°C	
3.	Operating Relative Humidity	RHop	0		95	%	[1]
4.	Storage Relative Humidity	RHstor	0		95	%	[1]

Note:

[1] Not to exceed industrial standard of 0.024 kg water per kg of dry air under non-condensing conditions.

2.2 Optical & Electrical Specifications

Item	Parameters	Symbol	Min	Typ	Max	Units	Note
5.	Operation Wavelength Range	λ_{op}	1260 ~ 1650			nm	
6.	Testing Wavelength 1	λ_1	1310			nm	
7.	Testing Wavelength 2	λ_2	1550			nm	
8.	Insertion Loss @ λ_1 / λ_2	IL			1.3	dB	
9.	Return Loss	RL	50			dB	
10.	Cross Talk	CT	45			dB	
11.	Extinction Ratio	ER	17			dB	
12.	Optical Power (Average)	Pop			500	mW	
13.	Repeatability	R	± 0.02			dB	
14.	Working Axis	WA	Both Axis			/	
15.	Durability	DR	10^9			Cycles	
16.	Switch Time	ST			20	ms	
17.	Vcc Voltage	Vcc		5		V	
18.	Switch Type	SWT	Non-Latching			/	
19.	Control Type	CTT	TTL or I ² C			/	[2]

Note:

* The specifications above are with connectors. IL is 0.3 dB higher, RL is 5 dB lower, ER is 2dB lower after connector added. The connector key is aligned to slow axis.

2.3 Mechanical Specifications

2.3.1 Specifications

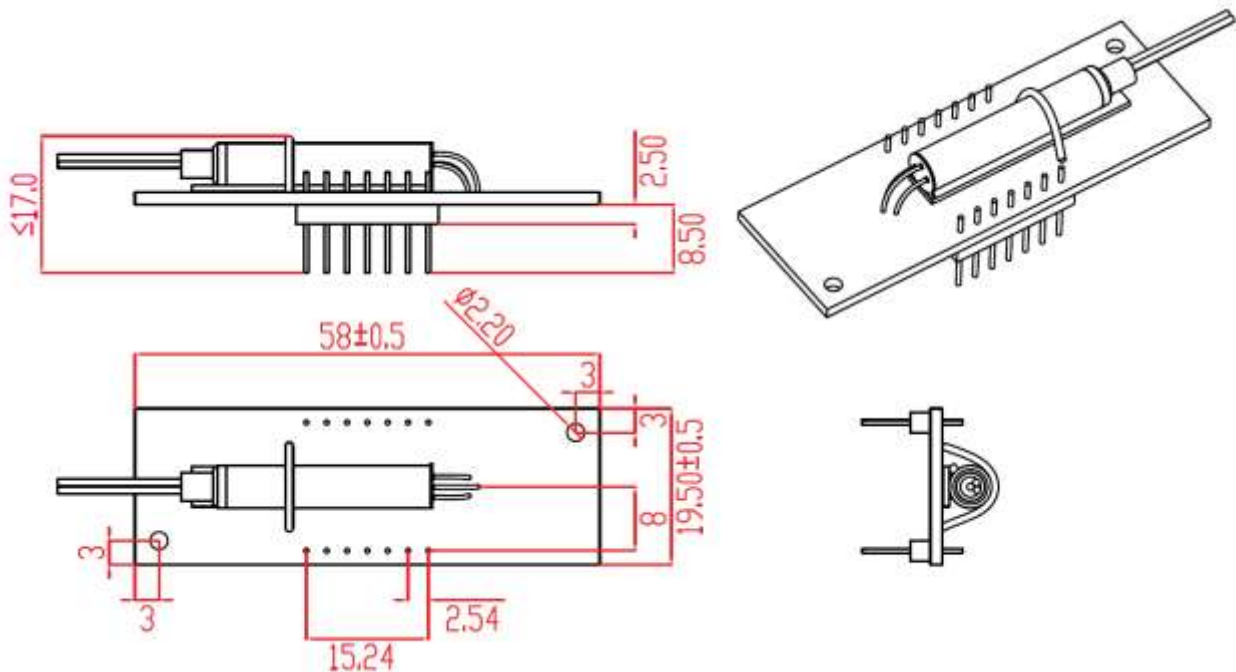
Item	Parameters	Symbol	Min	Typ	Max	Units	Note
1.	Fiber Type		PM Panda fiber				
2.	Fiber Jacket		By PN				
3.	Fiber Length		By PN			cm	[3]
4.	Connector Type (All Ports)		By PN				[4]
5.	Package Dimension		See drawings below			mm	

Note:

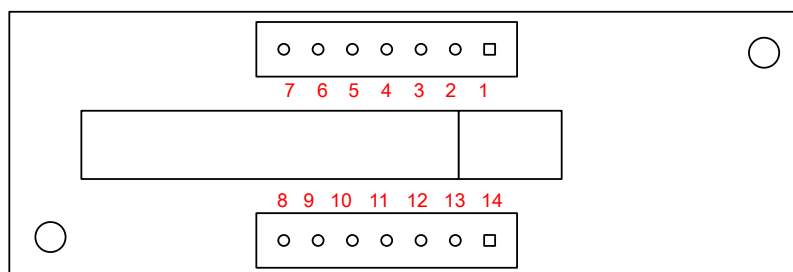
[3] The fiber length does not include the lengths of boot and connector.

[4] Mark the ports with labels.

2.3.2 Drawings



3 Electrical Pin Configuration



PCBA Diagrammatic (Top-view)

PIN	NAME	FUNCTION
1	VDD	Supply Voltage Input: +5V;
2	GND	Ground;
3	PD 1	TTL Input: L<0.8V, 2.2V<H<3.3V;
4	PD 2	TTL Input: L<0.8V, 2.2V<H<3.3V;
5	PD 3	TTL Input: L<0.8V, 2.2V<H<3.3V;
6	PD 4	TTL Input: L<0.8V, 2.2V<H<3.3V;
7	PD 5	TTL Input: L<0.8V, 2.2V<H<3.3V;
8	SDA	IIC: Serial Data Address Input/Output;
9	SCL	IIC: Serial Clock;
10	GND	Ground;
11	RX	UART: Receive Data;
12	TX	UART: Transmit Data;
13	NC	No Connected;
14	RST	Reset the System; Low = Operational;

TTL Function

PD 5	PD 4	PD 3	PD 2	PD 1	Channel
0	0	0	0	1	1
0	0	0	1	0	2
0	0	0	1	1	3
0	0	1	0	0	4
0	0	1	0	1	5
0	0	1	1	0	6
0	0	1	1	1	7
0	1	0	0	0	8

4 Device Label, Delivery Data

Triple-Stone standard format.

5 RoHS

RoHS compliant.

6 Ordering Information

