

1×N MEMS Polarization Maintaining Optical Switch Module

Description

The 1xN MEMS PM optical switch module is an advanced microelectromechanical system (MEMS) optical device that features high-speed operation, low insertion loss, and high stability. It is capable of receiving a single input light signal and accurately distributing it to N independent output ports, while ensuring the stability of the polarization direction of the transmitted light signal, which is crucial for maintaining the integrity of polarization sensitive signals. The module is designed compactly and operates rapidly, completing light signal switching in the microsecond range, with extremely low insertion loss, thus enhancing the overall efficiency of the system. Moreover, it supports remote control and can flexibly configure the optical path through external signals, making it suitable for applications such as data centers, optical communication networks, and scientific research experiments where precise optical path control and polarization stability are highly required.

Key Features

- Mini Size
- Fast Switching Time
- Low Insertion Loss
- Enhanced Reliability and Exceptional Stability

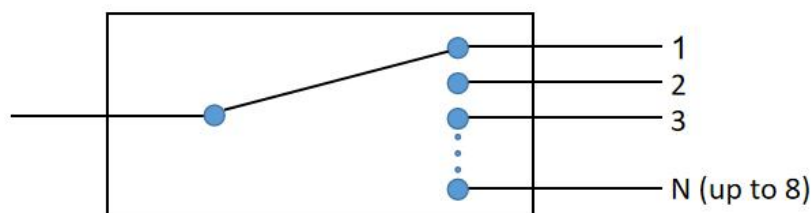
Applications

- Metropolitan Area Network
- Data Center
- Fiber Optic Sensing and Monitoring
- Instruments

Follow the Standards

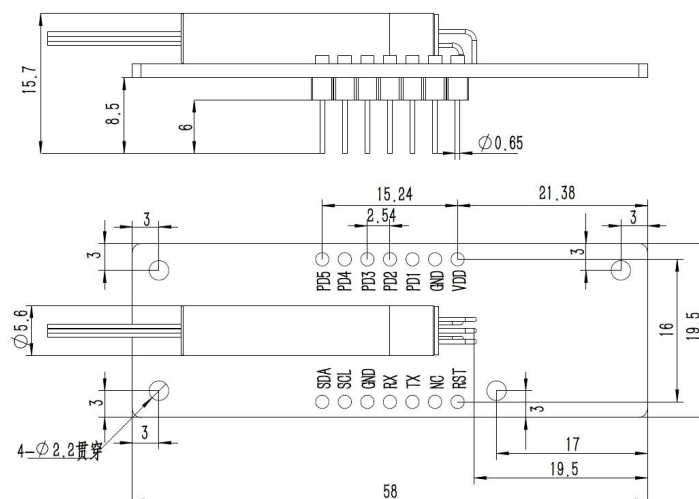
- Telcordia GR-1221
- Telcordia GR-1073

Optical Path Diagram



Parameter \ Type	Unit	1×N (N≤8) MEMS PMOS Module
Center Wavelength	nm	1310/1550
Insertion Loss	dB	≤0.8
Insertion Loss Consistency	dB	≤0.5
Extinction Ratio	dB	≥18
Wavelength Dependent Loss	dB	≤0.3
Temperature Dependent Loss	dB	≤0.3
Return Loss	dB	≥52
Cross Talk	dB	≥50
Repeatability	dB	≤0.05
Response Time	ms	≤20
Durability	times	≥10 ⁹
Switching Mode	/	Non-Latching
Handling Power	mW	≤500
Operating Voltage	V	DC 5±10%
Operating Current	mA	≤50
Working Axis	/	Both the axis working
Operating Temperature	℃	-5~+70
Storage Temperature	℃	-40~+85
Operating Humidity	%	5~95
Dimensions(L×W×H)	mm	58×19.5×15.7
Control Interface	/	TTL

- ## Mechanical Dimension



Pin Configuration

PIN	NAME	FUNCTION
1	VDD	Power Supply: +5V
2	GND	Ground
3	PD1	TTL Input : L<0.8V, 2.2V<H<3.3V
4	PD2	TTL Input : L<0.8V, 2.2V<H<3.3V
5	PD3	TTL Input : L<0.8V, 2.2V<H<3.3V
6	PD4	TTL Input : L<0.8V, 2.2V<H<3.3V
7	PD5	TTL Input : L<0.8V, 2.2V<H<3.3V
8	NC	No Connection
9	NC	No Connection
10	GND	Ground
11	RX	Receive Data
12	TX	Transmission Data
13	NC	No Connection
14	RST	Reset system; Low=Operable

Data Bit Switching Logic Table

PD5	PD4	PD3	PD2	PD1	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

Note: Default reset on channel 1 after power-up

Ordering Information

MEMS-PMOSM-1*N-XXXX-XX-XXX-XX/XX-XX*XX

