

1xN (N=4, 8, 12, ... , 32) MEMS Optical Switch, Coaxial Design

Features

Compact Size
Fast Response Time
TTL or CMOS Logic

Applications

Protection Switching
Reconfiguration
Optical Subsystems
Array Integration

Specifications

Parameters	Unit	Single Mode	Multimode
Operation Wavelength	nm	1260~1600	800~900, 1250~1370
Insertion Loss	dB	≤1.7 (Typ. 0.7)	
Polarization Dependent Loss	dB	≤0.15	
Return Loss	dB	≥50	≥20 (Typ. 35)
Cross Talk	dB	≥50 (Typ. 75)	≥30 (Typ. 45)
Switch Time	ms	≤10 (Typ. 5)	≤20 (Typ. 5)
Cycle Rate	Hz	≤10 (Typ. 1)	
Repeatability ³	dB	±0.01	
Durability	cycles	No Wear Out	
Fiber Type		SMF-28e	MMF 50/125, MMF62.5/125
Operating Relative Humidity	%	5~90	
Operating Temperature	°C	-10 ~ +70	
Storage Temperature	°C	-40 ~ +85	
Dimensions (LxWxH)	mm	25x40x9	21x40x10
Supply Voltage	V	4.75~5.25	
Power Consumption, Normal Mode	mW	≤75	
Power Consumption, Standby	mW	20 (Typ.)	
UART Speed	baud	9600~115200	
SMBus/I ² C Bus Speed	kbps	≤400	
Logic Level Low	V	≤0.6 (Typ. 0)	
Logic Level High	V	≥2.4 (Typ. 5)	
Reset Inactive Voltage ⁴	V	≥2.4 (Typ. 5)	
Reset Active Voltage	V	≤0.9 (Typ. 0)	
Reset Pulse Duration	μs	≥15	
Weight	g	75	

1 Range for gold mirror; for aluminum 400-2000 nm.

2 Value @ 25 °C, without connectors.

3 For constant temperature and polarization.

4 Through onboard pull-up resistor.

CONNECTOR PINOUT

Pin Number	Description
1	TTL2
2	TTL3
3	TTL0
4	TTL1
5	Ground (GND)
6	Supply voltage (V _{DD})
7	Reserved ⁴
8	UART TX data
9	Reserved ⁴
10	UART RX data
11	System reset (/RST)
12	SMBus/I ² C SDA
13	SMBus/I ² C SCL
14	Ground (GND)

⁴Let reserved pins unconnected.

Pin Number	Description
1	Parallel PD3
2	Parallel PD4
3	Parallel PD1
4	Parallel PD2
5	Parallel STROBE
6	Parallel PD0
7	Ground (GND)
8	Supply voltage (V _{DD})
9	Reserved ⁴
10	UART TX data
11	Reserved ⁴
12	UART RX data
13	System reset (/RST)
14	SMBus/I ² C SDA
15	SMBus/I ² C SCL
16	Ground (GND)

⁴Let reserved pins unconnected.

Ordering Information

LMSW- ①①①-②②②②②②②②②-③-④④④-⑤-⑥-⑦⑦-⑧⑧⑧⑧⑧⑧⑧⑧

①	Port Type	1x4; 1x8; ...; 1x32;
②	Wavelength	1260~1600; 800~900; 1250~1370;
③	Mode	N=Non-Latching;
④	Pigtail Type	250=250um Fiber(8 Core Ribbon Fiber)
⑤	Fiber Type	1=SMF-28; 2=MMF50/125; 3=62.5/125;
⑥	Fiber Length	1= 1m;
⑦	Connector	NE=None; FA=FC/APC; FC=FC/UPC; SA=SC/APC; SC=SC/UPC; LC=LC/UPC; XX=Others;

1x4 Mini Optical Switch

Features

Based on Free space designed
 Low IL, Low PDL,
 Fast Switch speed

Applications

OXC, OLP, ROADM
 Wavelength switch of testing system
 Channel switch of optic sensor system

Specifications

Parameters	Unit	Single Mode
Operation Wavelength	nm	1280~1340 or/and 1520~1610
Insertion Loss	dB	≤1.0
Polarization Dependent Loss	dB	≤0.2
WDL	dB	≤0.2
Return Loss	dB	≥45
Cross Talk	dB	≥60
Switch Time	ms	<10
Repeatability	dB	±0.05
Durability	cycles	>10 ⁷
Fiber Type		SMF-28e
Fiber Length	m	1
Operating Voltage	V	Min.4.5, Max 6.5
Switch Current	mA	120
Power Handling	mW	≤500
Operating Relative Humidity	%	5~90
Operating Temperature	°C	-5 ~ +65
Storage Temperature	°C	-40 ~ +85
Dimensions (LxWxH)	mm	55x44x15

Optic Ports and Electronic Pins Definition

Light Path	Pin Definition													
	Control Input								Status Output				Common Input	
	1A	1B	2A	2B	3A	3B	4A	4B	S1	S2	S3	S4	+5V	GND
	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8	Pin9	Pin10	Pin11	Pin12	Pin13	Pin14
Com-P1	+5V	0V	0V	+5V	0V	+5V	X	X	+5V	GND	GND	GND	+5V	GND
Com-P2	0V	+5V	+5V	0V	0V	+5V	X	X	GND	+5V	GND	GND	+5V	GND
Com-P3	0V	+5V	0V	+5V	+5V	0V	X	X	GND	GND	+5V	GND	+5V	GND
Com-P4	0V	+5V	0V	+5V	0V	+5V	X	X	GND	GND	GND	GND	+5V	GND

Ordering Information

OSW- ②②②②-③-④④④-⑤-⑥-⑦⑦

①	Port Type	1x4;
②	Wavelength	1550=1550; 1310=1310; 1315=1310/1550;
③	Mode	L=Latching;
④	Pigtail Type	900=900um Loose Tube;
⑤	Fiber Type	1=SMF-28;
⑥	Fiber Length	1= 1m;
⑦	Connector	NE=None; FA=FC/APC; FC=FC/UPC; SA=SC/APC; SC=SC/UPC; LC=LC/UPC; XX=Others;