# Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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# Ultra-mini 1x1, 1x2, 2x2 (Add/Drop) Fiber-optic Switch

## OFMS SM Series

## Product Description

Oplink OFMS ultra-mini fiber-optic switches are ideal for module and system integration where the unique unilateral input and output fiber configuration is preferred. These switches are designed for use in re-configurable optical add/drop multiplexers, optical cross-connect systems, and network switching for fault protection applications.

The opto-mechanical ultra-mini switch can be directly mounted on printed circuit board (PCB) and offer the same excellent performance characteristics of Oplink's standard OFMS series switch products. The OFMS miniature switches are Telcordia standards GR-1221 and GR-1073 qualified.

Oplink provides customized design to meet special control and applications. Also, Oplink offers modular assemblies that integrate other components to form a full function module or subsystem.

## Performance Specification

| Parameters | | Min | Typ. | Max | Unit |
|---|---|---|---|---|---|
| Operating Wavelength Range ($\lambda_{Op}$) | | \multicolumn{3}{c}{1290 ~ 1330 and/or 1525 ~ 1610} | | nm |
| Insertion Loss [1] | 1x1, 1x2 | \multicolumn{3}{c}{≤ 0.5} | | dB |
| | 2x2AD | ≤ 0.6 | | |
| Polarization Dependent Loss | | \multicolumn{3}{c}{≤ 0.07} | | dB |
| Return Loss | | \multicolumn{3}{c}{≥ 50} | | dB |
| Channel Cross-talk | | \multicolumn{3}{c}{≥ 55} | | dB |
| Repeatability | | \multicolumn{3}{c}{±0.02} | | dB |
| Switching Time [2] | | \multicolumn{3}{c}{≤ 4} | | ms |
| Operating Voltage | | \multicolumn{3}{c}{5 ± 10%} | | VDC |
| Driving Current [3] | Latching | 22 | | 32 | mA |
| | Non-latching | 31 | | 46 | |
| Coil Resistance | Latching | \multicolumn{3}{c}{202.5 ± 10%} | | Ω |
| | Non-latching | 145 ± 10% | | |
| Cycle Rate | | | | ≤10 | Hz |
| Durability | | 10 millions | | | cycle |
| Operating Power Handling | | \multicolumn{3}{c}{500} | | mW |
| Operating Temperature ($T_{Op}$) | | 0 | | 70 | °C |
| Storage Temperature | | -40 | | 80 | °C |
| Humidity [4] | | <85% RH, or <90%RH for short term | | |
| Switch Type | | latching or non-latching, single coil | | |
| Fiber Type | | Corning SMF-28 250µm fiber | | |
| Fiber Color Coding | | Red, Black, Clear and Blue for port 1,2,3 and 4 in order | | |
| Package Dimension | 250µm Bare Fiber | \multicolumn{3}{c}{29.0 (L) x 10.5 (W) x 7.85 (H)} | | mm |
| | 900µm Loose Tube | \multicolumn{3}{c}{38.5 (L) x 10.5 (W) x 7.85 (H)} | | mm |

## Features

◈ Miniature Size
◈ Unilateral Input/output Fiber Configuration
◈ Bi-directional Operation
◈ 1x1, 1x2 Latching or Non-latching Configurations
◈ Wide Operating Wavelength Range
◈ Seam-seal Package
◈ Highly Stable & Reliable

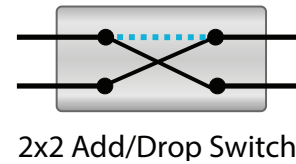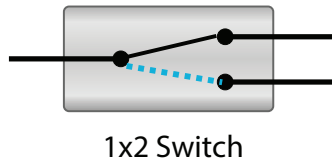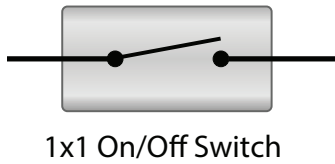## Applications

◈ Network Switching
◈ Re-configurable Optical Add/drop Multiplexers
◈ Optical Cross-connect Systems
◈ Network Protection and Restoration
◈ Module and System Integration
◈ Instrumentation, Testing and Measurement

Notes:
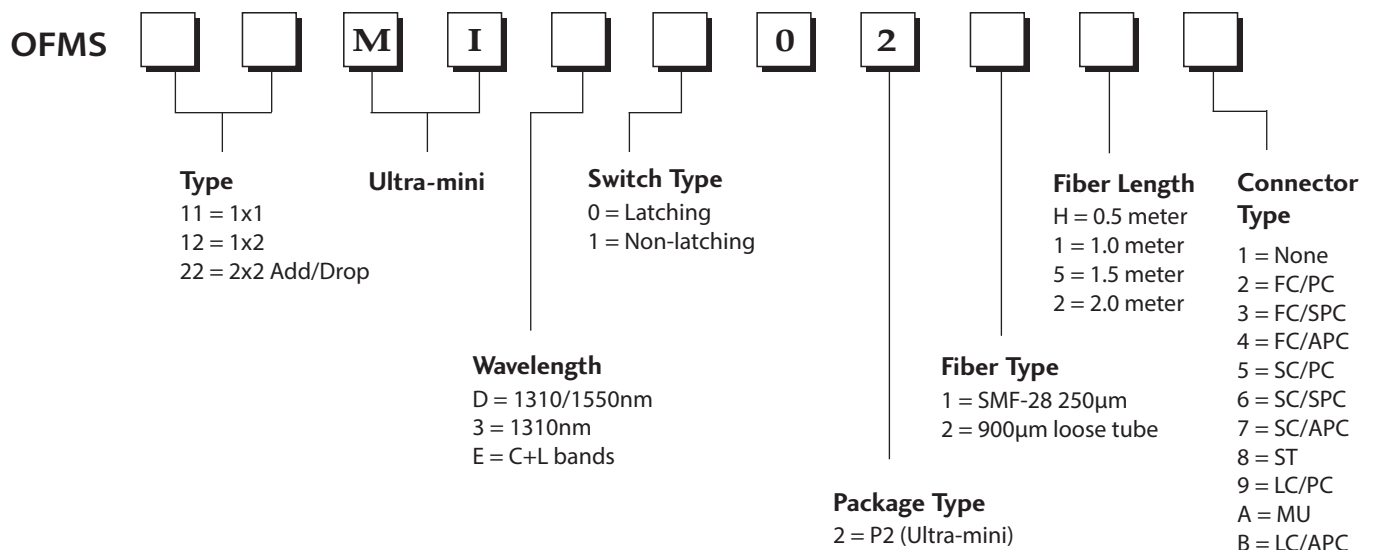1) Excluding connectors; add 0.3 dB within $\lambda_{Op}$ and $T_{Op}$.
2) Switching time is defined as the time interval between electrical trigger and 90% of stable optical output.
3) A >20ms DC pulse is recommended for latching type of switch.
4) Short term is defined as less than 96 consecutive hours and less than a total of 15 days over a one year period.

## Function Diagram

1x1 On/Off Switch          1x2 Switch          2x2 Add/Drop Switch

## Ordering Information

Oplink can provide a remarkable range of customized optical solutions. For detail, please contact Oplink's OEM design team or account manager for your requirements and ordering information (510) 933-7200.

OFMS ☐ ☐ **M** **I** ☐ ☐ **0** **2** ☐ ☐ ☐

**Type**
11 = 1x1
12 = 1x2
22 = 2x2 Add/Drop

**Ultra-mini**

**Switch Type**
0 = Latching
1 = Non-latching

**Wavelength**
D = 1310/1550nm
3 = 1310nm
E = C+L bands

**Package Type**
2 = P2 (Ultra-mini)

**Fiber Type**
1 = SMF-28 250µm
2 = 900µm loose tube

**Fiber Length**
H = 0.5 meter
1 = 1.0 meter
5 = 1.5 meter
2 = 2.0 meter

**Connector Type**
1 = None
2 = FC/PC
3 = FC/SPC
4 = FC/APC
5 = SC/PC
6 = SC/SPC
7 = SC/APC
8 = ST
9 = LC/PC
A = MU
B = LC/APC

* The tolerance of fiber length is +/-0.1m.
* 1 meter is standard. The lead time for special fiber length will be longer.
* RoHS: Add "G" to the end of the above PN for RoHS6 requirement.