



FAST FIBER OPTIC 1x24 SWITCH

OVERVIEW

The **sercalo** fiber optic switch is a very fast opto-mechanical switch based on the MEMS technology. The component makes an optical connection between an optical port and either one of 24 input or output lines. The highly reliable switching mechanism use integrated micromirrors and features below 1 ms switching time and only 2.0 dB insertion loss. The switch is powered by a 5 V supply voltage. A 5 V TTL or CMOS drive signal is used to control the switching state.

The switching mechanism offers the reliability of a solid state device; it neither wears out nor degrades over time. Even after billions of cycles the switching quality stays constant. The small package withstands rugged environments and is well suited for direct mounting on printed circuit boards.

APPLICATIONS

- Optical Reconfiguration
- Instrumentation
- Provisioning

ORDERING INFORMATION

SW1x24-9N (smf 28, single mode fiber)
SW1x24-50N (50 um core, graded index)
SW1x24-62N (62.5 um core, graded index)

FEATURES

- reliable
- 2.5 dB insertion loss
- 1 ms response time
- 60 dB crosstalk
- miniature size
- non-latching

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TECHNICAL SPECIFICATIONS (Single Mode Variant)

| | Unit | Min | Typ | Max |
|-----------------------------|--------|------|--------------------------------------|-------|
| Switch | | | | |
| Wavelength Range | nm | 1250 | | 1650 |
| Insertion Loss | dB | | 1.5 | 2.5 |
| Crosstalk | dB | | 60 | 50 |
| Backreflection | dB | | 55 | 50 |
| Polarisation Dependent Loss | dB | | | 0.25 |
| Repeatability ¹ | dB | | | 0.002 |
| Switching Time | ms | | 0.5 | 1 |
| Switching Voltage | V | | | 5 |
| Fiber Pigtail | μm | | SMF28 or 50/125/900 62/125/900 | |
| Durability | cycles | | no wear out | |
| Package | | | | |
| Power Consumption | mW | | 200 | |
| Operation Temperature | °C | 0 | | 70 |
| Storage Temperature | °C | -40 | | 85 |
| Size (L x W x H) | mm | | 206 x 105 x 10 | |

¹ value for constant temperature and polarisation

ELECTRICAL CONNECTION

Optical port selection table

| 1 | 2 | 3 | 4 | 5 | Port |
|---|---|---|---|---|------|
| 0 | x | 5 | 0 | 5 | 1 |
| 0 | x | 5 | 5 | 0 | 2 |
| 0 | x | 5 | 5 | 5 | 3 |
| 0 | x | 5 | 0 | 0 | 4 |
| 5 | 0 | 5 | 0 | 5 | 5 |
| 5 | 0 | 5 | 5 | 0 | 6 |
| 5 | 0 | 5 | 5 | 5 | 7 |
| 5 | 0 | 5 | 0 | 0 | 8 |
| 5 | 5 | 0 | 0 | 5 | 9 |
| 5 | 5 | 0 | 5 | 0 | 10 |
| 5 | 5 | 0 | 5 | 5 | 11 |
| 5 | 5 | 0 | 0 | 0 | 12 |
| 5 | 5 | 5 | 0 | 0 | 13 |
| 5 | 5 | 5 | 5 | 5 | 14 |
| 5 | 5 | 5 | 5 | 0 | 15 |
| 5 | 5 | 5 | 0 | 5 | 16 |
| 5 | 0 | 0 | 0 | 0 | 17 |
| 5 | 0 | 0 | 5 | 5 | 18 |
| 5 | 0 | 0 | 5 | 0 | 19 |
| 5 | 0 | 0 | 0 | 5 | 20 |
| 0 | x | 0 | 0 | 0 | 21 |
| 0 | x | 0 | 5 | 5 | 22 |
| 0 | x | 0 | 5 | 0 | 23 |
| 0 | x | 0 | 0 | 5 | 24 |

0 = 0 V (TTL or CMOS level)
5 = 5 V (TTL or CMOS level)
x = 0 V or 5 V

