



## ***Multimode*** **FAST** **FIBER OPTIC** **1x13 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 13 input or output lines. The highly reliable switching mechanism uses integrated micromirrors and features below 5 ms switching time and below 3.0 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. The switch is built by cascading 1x2 switches which are qualified according to Telcordia GR1221.

### **APPLICATIONS**

- Optical Reconfiguration
- Instrumentation
- Provisioning

### **FEATURES**

- reliable
- 2 dB insertion loss
- 5 ms response time
- 60 dB crosstalk
- miniature size
- non-latching

## TECHNICAL SPECIFICATIONS (*multimode variant*)

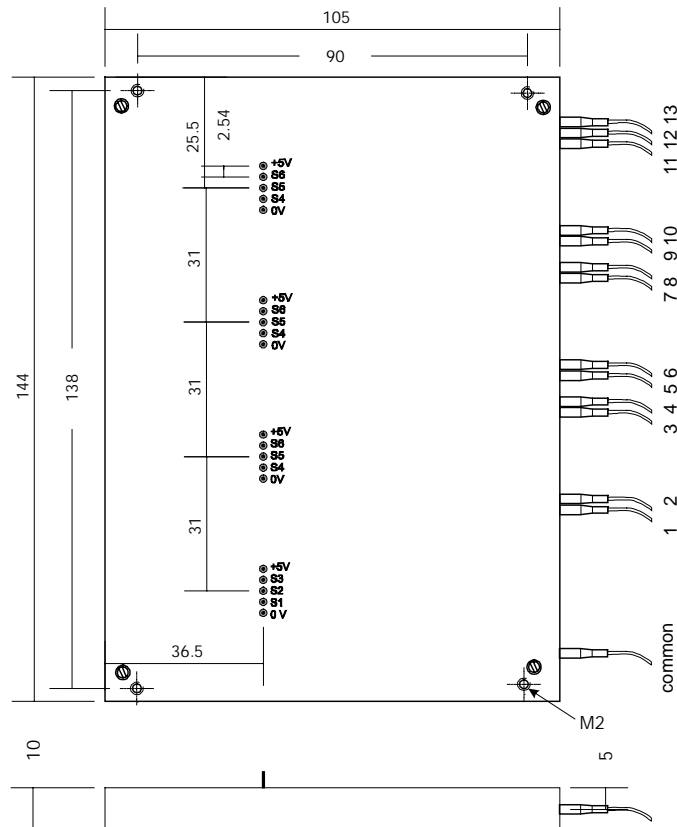
|                             | Unit   | Min | Typ                         | Max   |
|-----------------------------|--------|-----|-----------------------------|-------|
| <b>Switch</b>               |        |     |                             |       |
| Wavelength Range            | nm     | 600 |                             | 1700  |
| Insertion Loss              | dB     |     | 1.5                         | 3.0   |
| Crosstalk                   | dB     |     | 55                          | 45    |
| Backreflection              | dB     |     | 45                          | 35    |
| Polarisation Dependent Loss | dB     |     |                             | 0.25  |
| Repeatability <sup>1</sup>  | dB     |     |                             | 0.002 |
| Switching Time              | ms     |     | 2                           | 20    |
| Switching Voltage           | V      |     |                             | 5     |
| Fiber Pigtail               | µm     |     | 62/125/900 or<br>50/125/900 |       |
| Durability                  | cycles |     | no wear out                 |       |
| <b>Package</b>              |        |     |                             |       |
| Power Consumption           | mW     |     | 150                         |       |
| Operation Temperature       | °C     | 0   |                             | 70    |
| Storage Temperature         | °C     | -40 |                             | 85    |
| Size (L x W x H)            | mm     |     | 144 x 105 x 10              |       |

<sup>1</sup> value for constant temperature and polarisation

Optical Port Selection

| S1 | S2 | S3 | S4 | S5 | S6 | Port |
|----|----|----|----|----|----|------|
| 0  | 5  | x  | 0  | 0  | x  | 1    |
| 0  | 5  | x  | 5  | x  | 5  | 2    |
| 0  | 5  | x  | 5  | x  | 0  | 3    |
| 0  | 5  | x  | 0  | 5  | x  | 4    |
| 5  | x  | 0  | 0  | 0  | x  | 5    |
| 5  | x  | 0  | 5  | x  | 5  | 6    |
| 5  | x  | 0  | 5  | x  | 0  | 7    |
| 5  | x  | 0  | 0  | 5  | x  | 8    |
| 5  | x  | 5  | 0  | 0  | x  | 9    |
| 5  | x  | 5  | 5  | x  | 5  | 10   |
| 5  | x  | 5  | 5  | x  | 0  | 11   |
| 5  | x  | 5  | 0  | 5  | x  | 12   |
| 0  | 0  | x  | x  | x  | x  | 13   |

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



## ORDERING INFORMATION

SW1x13-62n-07-17 (62.5 µm fiber)  
SW1x13-50n-07-17 (50 µm fiber)  
SW1x12-62n-07-17 (without port 13)

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