

FIBER OPTIC 1xN SWITCH

coaxial design

OVERVIEW

Sercalo's fiber optic 1xN switches are bidirectional opto-mechanical switches based on a coaxial design where a single MEMS mirror redirects light from a common fiber to one of N ports.

The MEMS technology results in low insertion loss and low crosstalk between channels while keeping a constant switching performance. The switch communicates over a UART or I²C/SMBus. A TTL/CMOS-compatible parallel interface is also available for switches with up to 24 ports.

The MEMS component is hermetically sealed. The laser welded collimator guarantees high temperature and long term stability. The part complies with Telcordia 1221 reliability standards. No epoxy is present in the optical path. The miniature package withstands rugged environments and is well suited for direct mounting on printed circuit boards.

The component is compliant to RoHS requirements 2015/863/EU.

FEATURES

- Low insertion loss
- Reliable
- UART, I²C/SMBus and parallel interface
- Ethernet interface available on request
- ROHS compliant

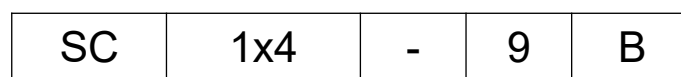
APPLICATIONS

- *Telecom*
- *Instrumentation*
- *Test and measurement*

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ORDERING INFORMATION



Switch type:

SC = 1250 – 1670 nm

Network:

1x4

Fiber type:

9PM = PM15-U40A
(corning Panda fiber)

Fiber sleeve type:

B = 250 μm bare fibers



Sercalo's COAXIAL TYPE 1xN switch is non latching and breaks the optical connection at power-off, i.e. routing of the common port is not defined at power off. The component works bidirectional, the common port can be used as input or output of the light signal. The optical assembly is laser welded and offers excellent stability over temperature and time.

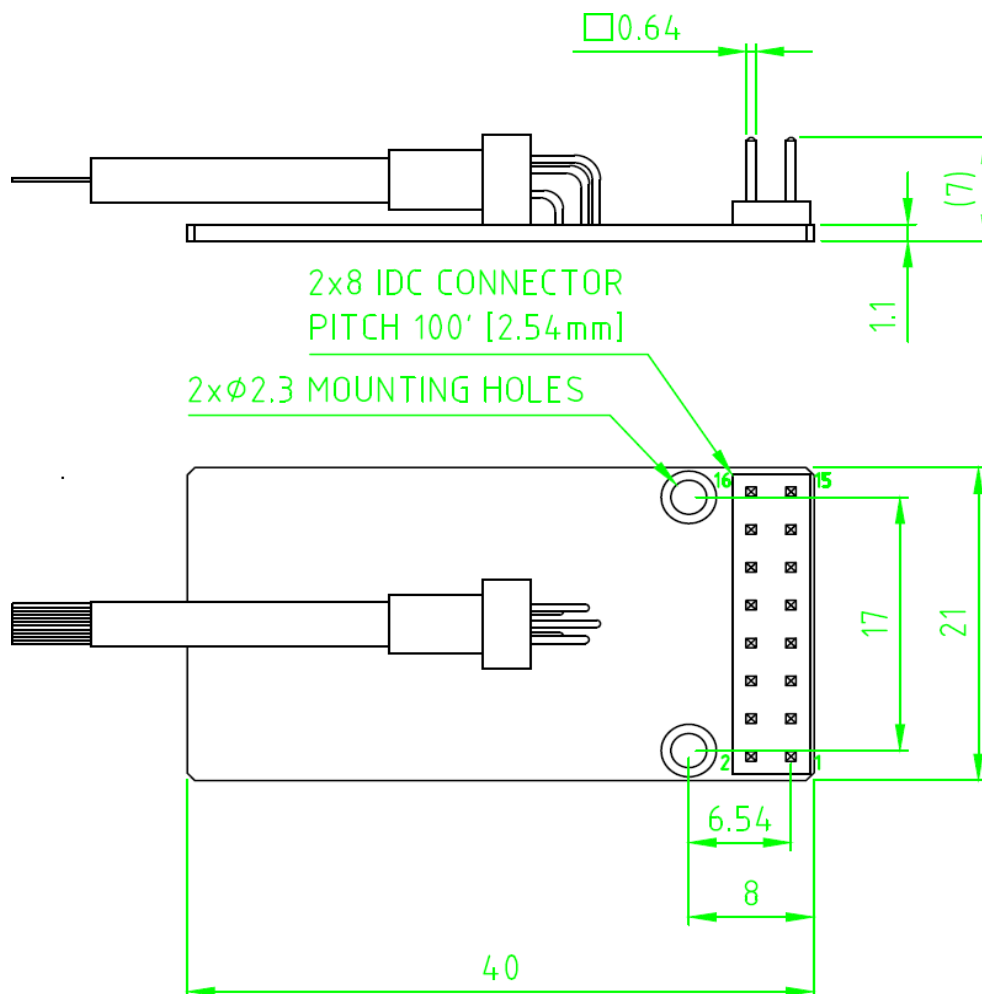
TECHNICAL SPECIFICATIONS for *Single Mode fiber, (PM fibers up to 1x4)*

CONNECTOR PINOUT

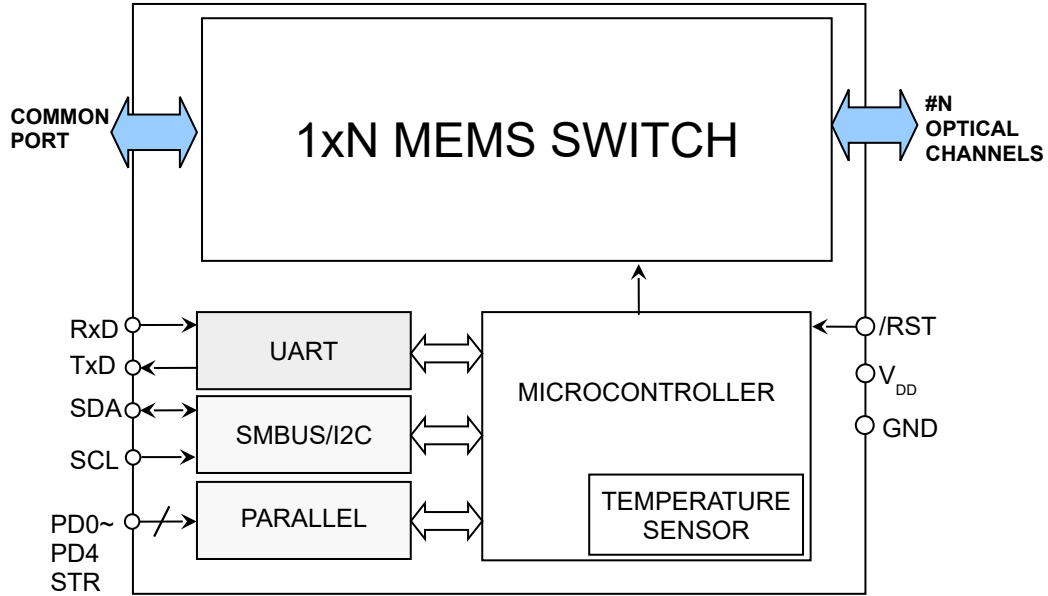
Pin number	Description
1	Parallel PD3
2	Parallel PD4
3	Parallel PD1
4	Parallel PD2
5	Parallel STROBE/ENABLE
6	Parallel PD0
7	Ground (GND)
8	Supply voltage (V _{DD})
9	Reserved ⁴
10	UART TX data
11	Reserved ⁴
12	UART RX data
13	System reset (/RST)
14	SMBus/I ² C SDA
15	SMBus/I ² C SCL
16	Ground (GND)

⁴Let reserved pins unconnected.

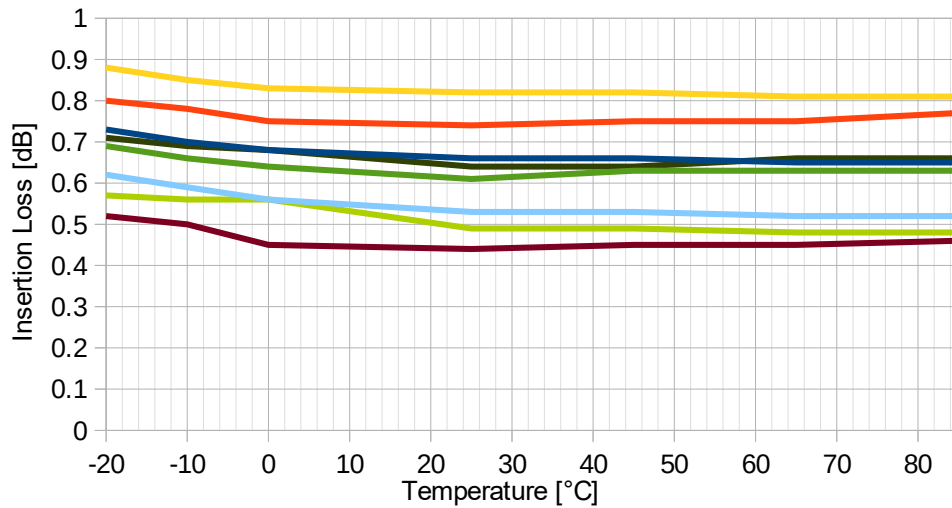
PRODUCT DIMENSIONS (IN MILLIMETERS)



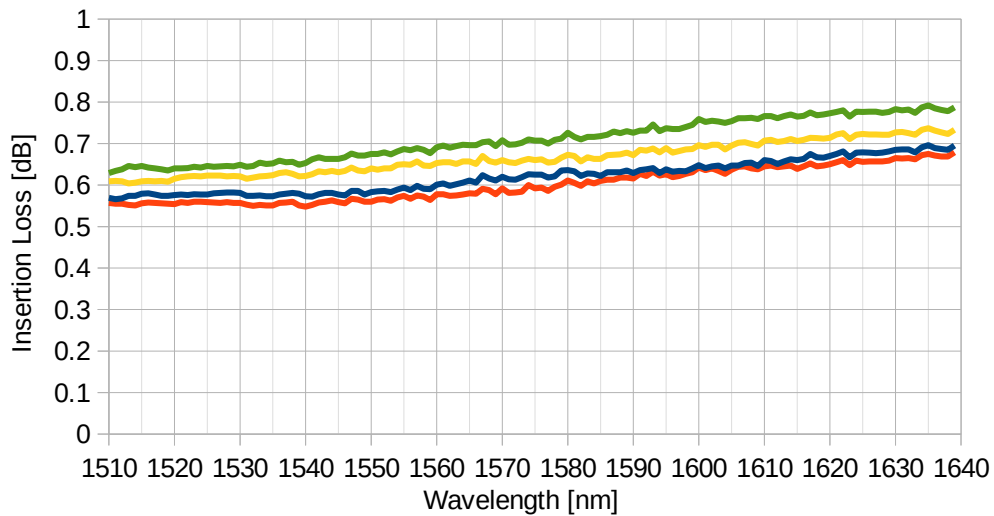
FUNCTIONAL BLOC DIAGRAM



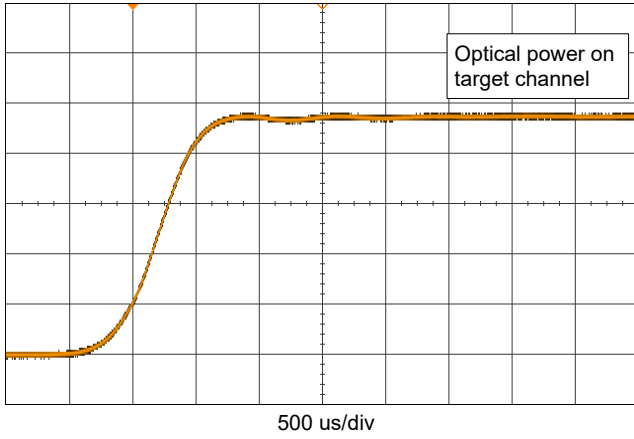
INSERTION LOSS vs. TEMPERATURE (SC 1x8)



WAVELENGTH DEPENDENT LOSS (SC 1x4)



OPTICAL RESPONSE TIME



CONTINUOUS SWITCH OPERATION

