Data sheet

**SFP Module single-mode 500SSM90**
EDS500 series - Ethernet & DSL switches

- Long Range (LR) SFP for distances up to 200 km
- Suitable for all EDS500 devices with SFP slots
- Duplex LC connector / Single-mode fiber
- Monitors the optical signal quality / Alarm generation before link loss

**Application**
This long range (LR) SFP is a pluggable optical transceiver for fiber optical transmission lines of up to 200 km range.

**ADVICE**
The SFP requires a minimum attenuation of 14 dB.
Do not connect these SFPs directly via fiber optic patch cord.

This SFP type supports monitoring the receiver input power, as well as the transceiver temperature and voltage (via DOM, Digital Optical Monitoring). Mechanical form factor and electrical interface are compatible with the multi-source agreement (MSA). Additionally, with this SFP type, the optical signal quality and attenuation can be monitored (for instance via SNMP if supported by host). A signal quality threshold can be defined, to enable alarming even before the optical link is lost (due to material aging or similar).
## Technical data

### Power budget
- **Minimum output power**: 1.0 dBm
- **Maximum output power**: 5.0 dBm
- **Receiver sensitivity**: -42.0 dBm
- **Minimum power budget**: 43.0 dB

### Electrical/Optical characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical Wavelength</td>
<td>1530 nm</td>
<td>1550 nm</td>
<td>1570 nm</td>
</tr>
<tr>
<td>Receiver Overload</td>
<td>-9.0 dBm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiber Type</td>
<td>9/125 μm single mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmitter Type</td>
<td>Laser DFB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laser Class</td>
<td>Class 1 DIN EN 60825-1 eye safety compliant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>3.1 Volt</td>
<td>3.3 Volt</td>
<td>3.5 Volt</td>
</tr>
<tr>
<td>Power Dissipation</td>
<td>990 mW</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### General characteristics
- **Data Rate**: 100 Mbps Ethernet
- **Range Classification**: Long Range (LR) / 200 km
- **Connector**: Duplex LC
- **Connector Contact Type**: Angled Physical Contact (APC)
- **Mean time between failure (MTBF)**: 1.163.198 hrs (132.8 years) at 40 °C
- **MTFB calculation according to**: Telcordia GR-468-CORE
- **RoHS Compliant**: Yes

### Environmental conditions - climatic
- **Operating temperature**: -40 °C ... 85 °C
- **Relative humidity**: 5 ... 95 % (non condensing)

## Ordering information
- **500SSM90 R0001**
- **1KGT038920R0001**

## Compatible devices
- **EDS500 switches**
  - (unmanaged, with SFP slots)
  - 560NUS12
- **500NMDxx**
  - (managed, with SFP-Slots)
  - 560NMDxx