Data sheet

SFP Module single-mode 500SUM20
EDS500 series - Ethernet & DSL switches

- Long Range (LR) SFP for distances up to 20 km
- Suitable for all EDS500 devices with SFP slots
- Simplex LC connector / Single-mode fiber
- Monitors the optical signal quality / Alarm generation before link loss
- Bidirectional transceiver, upstream (only one fiber used)

Application
This long range (LR) SFP is a pluggable optical transceiver for fiber optical transmission lines of up to 20 km range. A minimum attenuation is not required.

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).

Bidirectional transceivers can only be used in pairs on a fiber optical transmission line (type SDM with type SUM).
## Technical data

### Power budget
- **Minimum output power**: -15.0 dBm
- **Maximum output power**: -8.0 dBm
- **Receiver sensitivity**: -28.0 dBm
- **Minimum power budget**: 13.0 dB

### Electrical/Optical characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opt. Wavelength Rx</td>
<td>1450 nm</td>
<td>1550 nm</td>
<td>1610 nm</td>
</tr>
<tr>
<td>Opt. Wavelength Tx</td>
<td>1260 nm</td>
<td>1310 nm</td>
<td>1360 nm</td>
</tr>
<tr>
<td>Receiver Overload</td>
<td>-8.0 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 FP</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>980 mW</td>
<td></td>
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</tbody>
</table>

### General characteristics
- **Data Rate**: 100 Mbps Ethernet
- **Range Classification**: Long Range (LR) / 20 km
- **Connector**: Simplex LC
- **Connector Contact Type**: Angled Physical Contact (APC)
- **Mean time between failure (MTBF)**: 2.469.135 hrs (281.8 years) at 40 °C
- **MTFB calculation according to**: Telcordia GR-468-CORE
- **RoHS Compliant**: Yes

### Environmental conditions - climatic
- **Operating temperature**: EN 60068-2-14 0 °C ... 70 °C
- **Relative humidity**: EN 60068-2-30 5 ... 95 % (non condensing)

### Ordering information
- **500SUM20 R0001**
- **1KGT038904R0001**

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

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