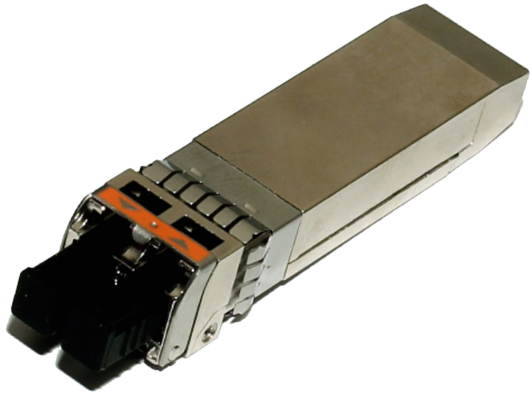


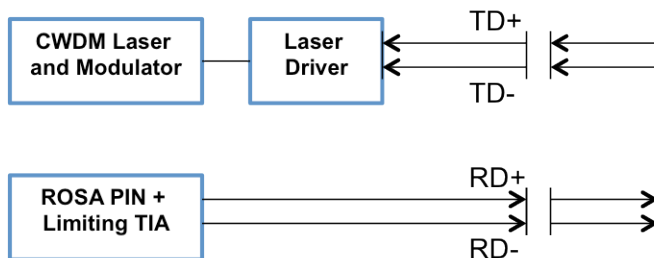


CWDM 10GBASE-ER/OC-192 IR-2 SFP+ Transceiver 10Gb/s 40km P/N 5ER0P0y-CWxx



Description

Menara Networks' CWDM 5ER0P0y-CWxx SFP+ transceivers are designed for use in 10Gb/s to 11.1Gb/s CWDM links up to 40km of G.652 fiber. The SFP+ module supports IEEE 802.3ae 10GBASE-ER and -EW applications along with SONET OC-192 IR-2 and SDH STM-64 ITU-T G.959 S-64.2b applications for Ethernet Switches, IP Routers or SONET/SDH optical interfaces. Digital Optical Monitoring interfaces are provided via the SFP+ standards compliant I²C interface.

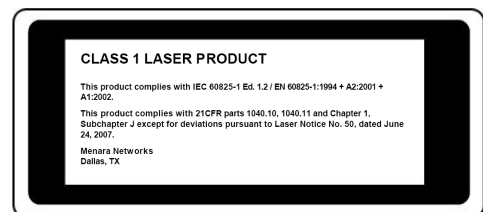


Applications

- CWDM 10GBASE-ER/EW 10G Ethernet
- 8GB/10GB Fibre Channel
- SONET OC-192 IR-2
- SDH STM-64 ITU-T G.959 S-64.2b
- Access CWDM Ethernet Switch or IP Router Interconnect

Features

- Hot-pluggable SFP+ footprint
- CWDM ITU-T fixed wavelength
- Support 9.95Gb/s to 11.3Gb/s bit rates
- 40km CWDM EML laser
- PIN photodiode receiver
- Single 3.3V power supply
- Power dissipation < 1.5W
- -5°C to +70°C and -5°C to +85°C extended temperature ranges
- Duplex LC fiber connectors
- IEEE 802.3ae 10GBASE-ER/EW
- SDH STM-64 ITU-T G.959 S-64.2b
- Full Digital Optical Monitoring
- Metal enclosure for lower EMI
- Complies with RoHS directive (2002/95/EC)
- Compliant with SFP+ Electrical MSA SFF-8431
- Compliant with SFP+ Mechanical MSA SFF-8432
- Laser Class 1 IEC/CDRH compliant



Transmitter E-O Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Note |
|------------------------------------|-------------------------|-------------------|---------|-------------------|------|------|
| Support data rate | - | 9.95 | 10.3125 | 11.1 | Gb/s | - |
| Center Wavelength | λ | 1260 | - | 1610 | nm | - |
| Spectral Width (RMS) | $\Delta\lambda$ | - | - | 0.20 | nm | - |
| Wavelength Stability after Startup | $\Delta\lambda_{EOL}$ | $\lambda_i - 5.5$ | - | $\lambda_i + 7.5$ | nm | - |
| CWDM Channel Spacing | $f_{SPACING}$ | - | 20 | - | nm | - |
| Average Optical Output Power | Po | -1.0 | - | +3.0 | dBm | EOL |
| Optical Power of Off Transmitter | Poff | - | - | -30 | dBm | - |
| Extinction Ratio | Er | 8.2 | - | - | dB | EOL |
| Output Eye Diagram | Compliant with SFP+ MSA | | | | | |

Receiver O-E Characteristics

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Note |
|---|------------|-------|---------|-------|------|----------------------|
| Support data rate | - | 9.95 | 10.3125 | 11.1 | Gb/s | - |
| Operate Wavelength | - | 1260 | - | 1620 | nm | - |
| Sensitivity @ 9.95 to 10.3Gbps | Sen1 | - | - | -16 | dBm | 1 |
| Sensitivity @ 11.1Gbps | Sen1 | - | - | -15 | dBm | 1 |
| Saturation | Ps | -1 | - | - | dBm | 1 |
| Optical Path Penalty @ 10.3Gbps 800ps/nm | OPP1 | - | - | 2 | dB | 1 |
| Optical Path Penalty @ 10.7Gbps 800ps/nm | OPP2 | - | - | 3 | dB | 1 |
| Optical Path Penalty @ 11.1Gbps 800ps/nm | OPP3 | - | - | 3 | dB | 1 |
| LOS Asserted (EOL) | T_loss_on | -40.0 | - | -27.5 | dBm | High level: Alarm |
| LOS De-Asserted | T_loss_off | - | - | -27 | dBm | |
| LOS Hysteresis (EOL) | T_loss_Hs | 0.5 | - | - | dB | |

Notes:

1. PRBS $2^{31}-1$ at 10^{-12} BER

Ordering Information

| Part Number | ROHS Compliant | Operating Case Temperature |
|--------------|----------------|----------------------------|
| 5ER0P0y-CWxx | ROHS-6 | -5 ~ +70°C |
| 5ER0P1y-CWxx | ROHS-6 | -5 ~ +85°C |

xx = CWDM Wavelength. See bold in table below for details.

y = Router compatibility; J = Juniper, A = AlcatelLucent, C = Cisco, O = Cisco ONS

| CWDM Wavelength | Latch Color |
|-----------------|-------------|
| 1470 | Gray |
| 1490 | Violet |
| 1510 | Blue |
| 1530 | Green |

| CWDM Wavelength | Latch Color |
|-----------------|-------------|
| 1550 | Yellow |
| 1570 | Orange |
| 1590 | Red |
| 1610 | Brown |

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