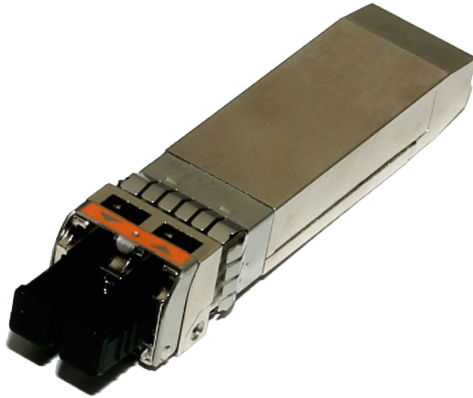


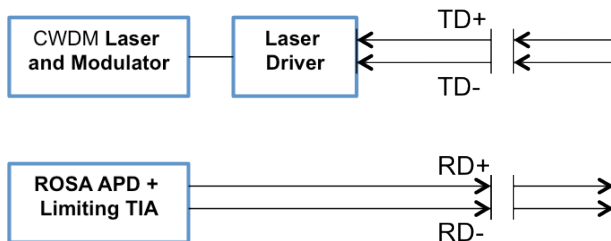


CWDM 10GBASE-ZR/OC-192 LR-2 SFP+ Transceiver 10Gb/s 70km P/N 5ZR0A0y-CWxx



Description

Menara Networks' CWDM 5ZR0A0y-CWxx SFP+ transceivers are designed for use in 10Gb/s to 11.1Gb/s CWDM links up to 70km of G.652 fiber. The SFP+ module supports 10GBASE-ZR and -ZW applications along with SONET OC-192 LR-2 and SDH STM-64 ITU-T G.959.1 P1L1-2D2 applications for Ethernet Switches, IP Routers or SONET/SDH optical interfaces. Digital Optical Monitoring interfaces are provided via the SFP+ standards compliant I²C interface.

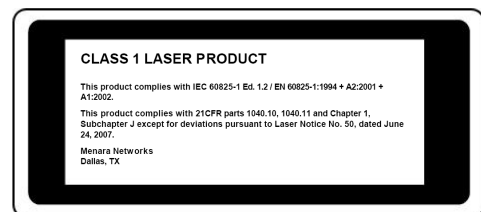


Applications

- CWDM 10GBASE-ZR 10G Ethernet
- 8GB/10GB Fibre Channel
- SONET OC-192 LR-2
- SDH STM-64 ITU-T G.959.1 P1L1-2D2
- 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
- CWDM EML laser
- APD 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
- 10GBASE-ZR/ZW
- SDH STM-64 ITU-T G.959.1 P1L1-2D2
- 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	1270	-	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	9.0	-	-	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	-	-	-23	dBm	1
Sensitivity @ 11.1Gbps	Sen1	-	-	-22	dBm	1
Saturation	Ps	-7	-	-	dBm	1
Optical Path Penalty @ 9.95Gbps 1600ps/nm	OPP1	-	-	2	dB	1
Optical Path Penalty @ 10.7Gbps 1600ps/nm	OPP2	-	-	3	dB	1
Optical Path Penalty @ 11.1Gbps 1450ps/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
5ZR0A0y-CWxx	ROHS-6	-5 ~ +70°C
5ZR0A1y-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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