

Thin-Film Coarse Wavelength Division Multiplexers (CWDMs)

This document proposes the specification of Coarse Wavelength Division Multiplexers and Demultiplexers.

Specifications

(All parameters are referenced without connectors. Typical connector loss 0.25 dB/pair)

Parameters	Specification	Unit
Center Wavelength	1271, 1291, 1311, 1331, 1351, 1371, 1391, 1411, 1431, 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611 1270, 1290, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610	nm
Nominal Channel Spacing	20	nm
Channel Passband	$\lambda_c \pm 6.5\text{nm}$	nm
Passband Ripple	≤ 0.5	dB
Insertion Loss	≤ 1.0 (1-ch) ≤ 1.8 (4-ch) ≤ 2.8 (8-ch) ≤ 3.8 (16-ch)	dB
Uniformity	≤ 1.0	dB
Isolation (adjacent channel)	≥ 30	dB
Isolation (non-adjacent channel)	≥ 45	dB
Insertion Loss Temperature Sensitivity	≤ 0.008	dB/°C
Polarization Dependent Loss	≤ 0.1	dB
Polarization Mode Dispersion	≤ 0.1	ps
Return Loss (at Mux/DeMux channels)	≤ 45	dB
Directivity	≤ 55	dB
Maximum Power Handling	300	mW
Operating Temperature	-5 to 65	°C
Storage Temperature	-40 to 85	°C
Package Dimension	P0 (1-ch): $\varnothing 5.50 \times 35 / \varnothing 5.50 \times 40$ P1 (4-ch): 100 (L) x 80 (W) x 8 (H)* P2 (8/16-ch): 120 (L) x 90 (W) x 8 (H)*	mm

*LGX style enclosures also available. See Section 8 for details.

P/N Scheme: CWDMs

C	W	F															
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Configuration

M=Mux
D=Demux

Channels

01=1-Channel
04=4-Channel
08=8-Channel
16=16-Channel

Fiber Type

A=250 μm bare fiber
B=900 μm loose tube
C=3 mm jacket
D=2 mm jacket

Fiber Length

10=1.0 m
15=1.5 m
30=3.0 m
mn=m.n meters

Connectors

0=none A=FC/PC
2=FC/UPC B=SC/SPC
3=FC/APC C=SC/PC
4=SC/UPC D=ST/SPC
5=SC/APC E=ST/PC
6=ST/UPC F=LC/SPC
7=LC/UPC G=LC/PC
9=FC/SPC H=MU/UPC
I=MU/PC
J=LC/APC

**Start Channel
(Short Wvl)**

**End Channel
(Long Wvl)**

E0=1271	00=1471	E0=1271	00=1471
E1=1291	01=1491	E1=1291	01=1491
E2=1311	02=1511	E2=1311	02=1511
E3=1331	03=1531	E3=1331	03=1531
E4=1351	04=1551	E4=1351	04=1551
E5=1371	05=1571	E5=1371	05=1571
E6=1391	06=1591	E6=1391	06=1591
E7=1411	07=1611	E7=1411	07=1611
E8=1431		E8=1431	
E9=1451		E9=1451	

Package Type

0= No SS Tube
S= Single
N= Module
G=LGX