XenOpt

X86-DCM

Dispersion Compensation Module

Features

- Wide band continuous Dispersion Compensation for DWDM System

- Optimized for G.652 fiber C-Band Slope Compensation

- Low Insertion Loss

- Low Polarization Mode Dispersion

- Performance indicators have passed Telcordia GR-2854-CORE standard authentication

- Reliability exceeds Telcordia GR-1221-CORE standard specification

- Various package styles, connector types and jumper lengths available

Applications

- G.652 Standard Single-Mode Fiber Long Distance and Metropolitan Area Communication System

- DWDM Transmission System

- CATV System

Description

Dispersion compensation modules (DCM) are used for compensating the chromatic dispersion of a long span of transmission fiber.

Dispersion compensation modules are based on fiber cable with negative dispersion coefficient optimized to provide dispersion slope compatible with G.652 cable but can still be used with other types of optical cables. Fiber based DCM modules excel in linear continuous transfer characteristics, that can accommodate systems with adjustable channel bandwidth that channelized solutions cannot support. Used fiber exhibits low attenuation and high linearity. In addition to standard version that supports power levels of up to 6dBm we have available also high power versions that can operate with to 23dBm of optical power without exhibiting nonlinear effects.

XenOpt provides also a range of DCM modules based on Bragg Grating technologies and are described in separate data-sheets.

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X68-DCM

Environmental Features

Parameter	Min	Max
Operating Temperature Range	-5℃	70℃
Storage Temperature Range	-40℃	85℃
Environment/Reliability Test	Compliance with Telcordia GR-285 and GR-1221 Standard	

Optical Performance Specifications

Parameter	Description		
Dispersion Compensation at 1545 nm[3,4]	20 km -340±20 ps/nm	…. 80 km …. …. -1340±20 ….	150 km -2550±20 ps/nm
Relative Dispersion Slope at 1545 nm	0.0036±20% nm-1（Standard） 0.0036±10% nm-1（Hi Power）		
Insertion Loss at 1525nm~1565[1] nm	≤2.8dB	…. ≤7.2 dB ….	≤12.6 dB
Polarization Mode Dispersion	≤0.2 ps	…. ≤0.5 ps ….	≤0.8 ps
Polarization Mode Dispersion[2] (typ)	0.2 ps	…. 0.5 ps ….	1.2 ps
Polarization Dependent Loss	≤0.1 dB	…. ≤0.1 dB ….	≤0.1 dB
Brillouin Scattering Threshold(min)	6 dBm for Standard version 22 dBm for High Power version		
Nonlinear System (n^2/Aeff)	Maximum Value: $1.4*10\text{-}9 \ W^{-1}$		
Effective Area (Aeff)	Minimum Value: 20 um^2		
Working Temperature	-5℃～+70℃		
Storage Temperature	-40℃～+85℃		
Connector	LC/PC		
Packaging Dimensions	X6500 box (W×L×H) 482.6x269x43.6 mm LGX 1U box		

Notes

(1) Specified insertion loss is the max IL value within C - band (1525nm-1565nm).

(2) PMD is the average differential group delay within C - band measured by Jones Matrix method

(3) Values of parameters for intermediate lengths increase linearly with compensation distance, see ordering for for available compensation distances

(4) Modules for other distances/compensation dispersion can be produced on request.

Ordering information

PN	Description
X86-DCM-S	DCM Fiber Standard, xx km, -5℃～+70℃, xx = 20, 30, 40, 50, 60, 70, 80, 90, 100
X86-DCM-H	DCM Fiber Hi Power, xx km, -5℃～+70℃, xx = 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150

Notes

[1] Up to 10 DCM modules (typically 2 to 4)

[2] Custom versions with multiple Bragg Grating chromatic compensation are also available

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