

## Lightem LDCM series – Dispersion Compensation Optical Fiber Module

Other than fiber link attenuation, dispersion is another major factor which limits the transmission distance of 1550nm band of optical fiber system, particularly for long haul transmissions. Lightem LDCM series dispersion compensation fiber module, is negative dispersion compensation based on optical fiber technology, can effectively compensate for G.652 standard single-mode fiber transmission band of 1525 ~ 1565nm dispersion and dispersion slope characteristic.



### Features

- ◆ Suitable for standard single mode optical fiber G.652, 1525~1565nm transmission channel
- ◆ Excellent dispersion compensation feature can eliminate the influence to system's index, because of residual dispersion
- ◆ G.652 100% C band dispersion compensation fiber
- ◆ Dispersion compensation value range is 10~120km optional.
- ◆ Low insertion loss
- ◆ Low polarization mode dispersion
- ◆ Excellent performance price ratio

### Applications

- ◆ G.652 standard single mode fiber, 1525 ~ 1565nm wavelength range and chromatic dispersion slope compensation
- ◆ DWDM system in the long distance, the long distance fiber link
- ◆ CATV long trunk
- ◆ Long distance optical fiber link, satellite, microwave

### Optical Specifications

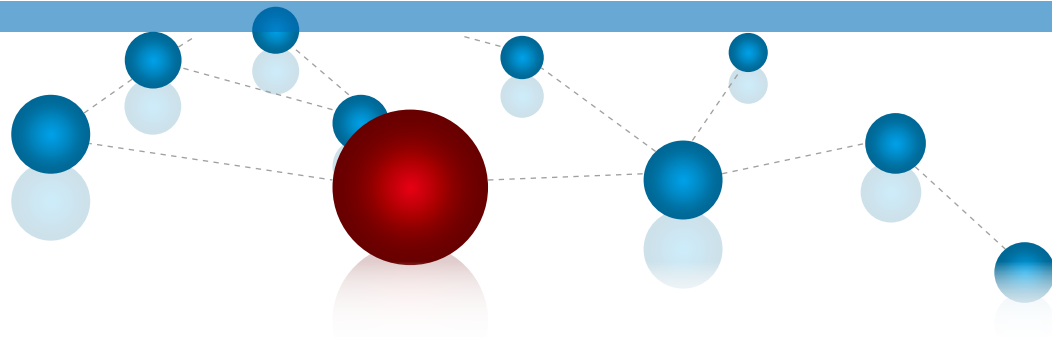
Parameters	Min	Typ	Max	Unit	Remark
Operating wavelength	1525		1565	(nm)	
Pass power	30	20		(dBm)	
Effective area		1.4×10 <sup>-9</sup>		(m <sup>2</sup> )	
Nonlinearity				(n <sup>2</sup> /Aeff)	
SBS Threshold	+6			(dBm)	
Optical connector		SC/APC			
Return loss			-45	(dB)	
		10			C10
		20			C20
		30			C30
		40			C40
		50			C50
Compensated optical fiber length		60		(km)	C60
		70			C70
		80			C80
		90			C90
		100			C100
		110			C110
		120			C120

## Optical Specifications

Parameters	Wavelength	Min	Typ	Max	Unit	Remark	
Dispersion Value	1525nm	-159		-145	(ps/nm)	C10	
		-315		-293		C20	
		-472		-440		C30	
		-629		-588		C40	
		-786		-735		C50	
		-942		-883		C60	
		-1097		-1033		C70	
		-1251		-1183		C80	
		-1406		-1333		C90	
		-1560		-1482		C100	
		-1714		-1632		C110	
		-1868		-1782		C120	
	1545nm	-170	-165	-158	(ps/nm)	C10	
		-337	-332	-319		C20	
		-515	-498	-485		C30	
		-673	-664	-640		C40	
		-860	-830	-810		C50	
		-1009	-996	-960		C60	
		-1205	-1160	-1135		C70	
		-1340	-1328	-1280		C80	
		-1545	-1494	-1455		C90	
		-1671	-1660	-1611		C100	
		-1895	-1826	-1795		C110	
		-2001	-1990	-1937		C120	
	1565nm	-184		-168	(ps/nm)	C10	
		-364		-340		C20	
		-546		-511		C30	
		-727		-682		C40	
		-909		-853		C50	
		-1090		-1024		C60	
		-1269		-1198		C70	
		-1448		-1371		C80	
		-1627		-1545		C90	
		-1805		-1718		C100	
		-1984		-1892		C110	
		-2162		-2066		C120	
			1.2	2.1	(dB)	C10	
			1.8	2.7		C20	
			2.5	3.4		C30	
			3.2	4.1		C40	
			3.9	4.8		C50	
		Optical fiber insertion loss		4.5		5.5	C60
		( 1525~1565nm )		5.3		6.2	C70
				6.0		6.9	C80
				6.7		7.7	C90
				7.4		8.4	C100
				8.1		9.1	C110
				8.8		9.8	C120
Residual dispersion slope		0.00299	0.00360	0.00421	(nm <sup>-1</sup> )		
Polarization dependence loss			0.1		(dB)		

## Optical Specifications

Parameters	Wavelength	Min	Typ	Max	Unit	Remark
				0.5		C10
				0.6		C20
				0.6		C30
				0.6		C40
				0.7		C50
wavelength dependent loss ( 1530nm~1565nm )				0.7	(dB)	C60
				0.8		C70
				0.8		C80
				0.8		C90
				0.8		C100
				0.9		C110
				0.9		C120
			0.1	0.3		C10
			0.2	0.4		C20
			0.2	0.4		C30
			0.2	0.5		C40
			0.2	0.5		C50
Polarization Mode Dispersion (PMD)			0.2	0.6	(ps)	C60
			0.3	0.6		C70
			0.3	0.7		C80
			0.3	0.7		C90
			0.3	0.8		C100
			0.3	0.8		C110
			0.3	0.8		C120
		0.85	1.0	1.2		C10
		1.7	2.0	2.4		C20
		2.5	3.0	3.1		C30
		3.5	4.1	4.8		C40
		4.4	5.1	6.0		C50
		5.2	6.1	7.2	(km)	C60
Dispersion Optical Fiber Length		6.1	7.1	8.4		C70
		7.0	8.1	9.6		C80
		7.8	9.2	10.6		C90
		8.5	10.2	11.5		C100
		9.3	11.3	12.7		C110
		10.2	12.3	13.8		C120
Operating Temp.		-5		+70	(°C)	
Storage Temp.		-40		+85	(°C)	
Operating humidity		0		85	(%)	
Storage humidity		0		85	(%)	
Dimension			483x 279x 44		(mm)	



## Ordering information

P/N	Compensation distance	Dispersion typical value (1545nm) (ps/nm)	Polarization mode dispersion (ps)	Insertion loss (dB)
LDCM-C10	10	-165	0.1	1.2
LDCM-C20	20	-332	0.2	1.8
LDCM-C30	30	-498	0.2	1.8
LDCM-C40	40	-664	0.2	3.2
LDCM-C50	50	-830	0.2	3.9
LDCM-C60	60	-996	0.2	4.5
LDCM-C70	70	-1160	0.2	5.3
LDCM-C80	80	-1328	0.3	6.0
LDCM-C90	90	-1494	0.3	6.7
LDCM-C100	100	-1660	0.3	7.4
LDCM-C110	110	-1826	0.3	8.1
LDCM-C120	120	-1990	0.3	8.8