

低水峰非色散位移单模光纤 (G.652.D)

Low Water Peak Dispersion Unshifted Single-mode Optical Fiber (G.652.D)

产品描述

低水峰非色散位移单模光纤 (G.652.D) 适用于 1260~1625nm 全波段的传输系统，在 1383nm 具有较低损耗，使 E 波段 (1360~1460nm) 得到充分利用。优化了 1260~1625nm 全波段的损耗和色散，降低了 1625nm 波长的弯曲损耗，为干线网、城域网、接入网提供了更大的带宽资源。

Product Description

Low water peak dispersion unshifted single-mode optical fiber (G.652.D) is applicable to transmission systems operating over the entire wavelength from 1260 to 1625nm, which maintains low attenuation at 1383nm, thus making full use of E-band (1360-1460nm). It optimizes attenuation and dispersion across the entire wavelength from 1260 to 1625nm, reduces bending loss at the wavelength of 1625nm, provides more bandwidth resources for backbone, metropolitan area, and access networks.

执行标准

符合或优于 ITU-T G.652.D 和 IEC 60793-2-50 B1.3 型光纤技术规范。

Product Standard

Complies with or exceeds the ITU-T recommendation G.652.D and the IEC 60793-2-50 B1.3 optical fiber specifications.

产品特点

实现 1260~1625nm 全波段的传输，提高了系统传输容量；优越的光学性能，能够满足 DWDM 和 CWDM 系统的高速传输要求；精确的几何尺寸，确保低的熔接损耗和高的熔接效率；优异的 PMD 系数，满足传输系统的长中继距离和高速率要求。

Product Characteristics

Designed for operation over the full optical spectrum from 1260 to 1625nm, hence the transmission capacity is increased. Outstanding optical performance supporting high-speed transmission technologies such as DWDM and CWDM. Accurate geometrical parameters ensure low splicing loss and high splicing efficiency. Excellent PMD satisfying high bit-rate and long distance transmission requirements.

光学特性 /Optical Characteristics

特性 Characteristics		单位 Units	数值 Value
衰减 Attenuation	1310nm	dB/km	≤0.35
	1383nm	dB/km	≤0.34
	1550nm	dB/km	≤0.21
	1625nm	dB/km	≤0.24
相对波长衰减变化 Attenuation vs. Wavelength	1285-1330nm vs. 1310nm	dB/km	≤0.04
	1525-1575nm vs. 1550nm	dB/km	≤0.03
衰减不连续性 (台阶) Attenuation Discontinuity	1310nm	dB	≤0.04
	1550nm	dB	≤0.04
衰减不均匀性 Attenuation Nonuniformity	1310nm	dB/km	≤0.05
	1550nm	dB/km	≤0.05
衰减双向端差 Attenuation of bidirectional differential	1310nm	dB/km	≤0.05
	1550nm	dB/km	≤0.05
零色散波长 Zero Dispersion Wavelength		nm	1300-1324
零色散斜率 Zero Dispersion Slope		ps/(nm ² .km)	0.073-0.092
波长范围内的色散 Dispersion within the wavelength range	1550nm	ps/(nm.km)	≤18
	1625nm	ps/(nm.km)	≤22

单根光纤偏振模色散最大值 Maximum PMD of single Fiber		ps/(km ^{1/2})	≤0.2
光缆截止波长λ _{cc} Cable Cutoff Wavelength λ_{cc}		nm	≤1260
模场直径 Mode Field Diameter	1310nm	μm	9.2±0.4
有效群折射率	1310nm		1.467
Effective Group Refraction Index	1550nm		1.468

几何特性/Geometrical Characteristics

特性 Characteristics	单位 Units	数值 Value
包层直径 Cladding Diameter	um	125±0.7
芯/包同心度偏差 Core/package concentricity deviation	um	≤0.6
包层不圆度 Cladding Non-Circularity	%	≤1
外涂层直径 Coating Diameter	um	245±10
涂层不圆度 Coating Non-Circularity	%	≤4
涂层/包层同心度偏差 Coating/cladding concentricity deviation	um	≤12.5
翘曲度 Warpage	m	≥4

光纤的环境特性/Environmental Characteristics (1310nm、1550nm、1625nm)

特性 Characteristics	单位 Units	数值 Value
温度循环附加衰减 CyclingTemperature cycling additional decay	- 60℃ ~ +85℃	dB/km ≤0.03
湿热老化附加衰减 Additional degradation due to damp heat aging	85℃, RH85%, 30 days	dB/km ≤0.03
浸水老化附加衰减 Additional degradation due to water immersion aging	23℃, 30 days	dB/km ≤0.03

干热老化附加衰减 Additional degradation due to dry heat aging 85°C, 30 days dB/km ≤0.03

光纤的机械特性/Mechanical Characteristics

特性 Characteristics		单位 Units	数值 Value
光纤筛选应力 Optical fiber screening stress		N	≥9.0
		%	≥1.0
		Kpsi	≥100
涂层机械剥离力 Coating mechanical peel force	峰值 Peak Force	N	1.0-8.9
	平均值 average value	N	1.0-5.0
拉伸强度 Tensile Strength	韦伯分布 50% Weibull Probability 50%	Gpa	≥4.00
	韦伯分布 15% Weibull Probability 15%	Gpa	≥3.20
动态疲劳参数 n _d Dynamic Fatigue Parameter		/	≥20
宏弯附加损耗 Macro bending additional loss			
半径 30mm, 100 圈 30mm radius, 100 turns	1550nm、1625nm	dB	≤0.05
半径 16mm, 1 圈 16 mm radius, 1 turn	1550nm、1625nm	dB	≤0.05