弯曲不敏感单模光纤（G.657.A2）

Bending Insensitive Single-mode Optical Fiber（G.657.A2）

产品描述	**Product Description**
弯曲不敏感单模光纤（G.657.A2）具有非色散位移单模光纤的各项特性，且弯曲性能更加优异，适用于1260nm-1625nm全波段的传输。在长波段弯曲条件下，弯曲半径在7.5mm，1625nm窗口附加损耗仅为1dB。	Bending insensitive single-mode optical fiber (G.657.A2) bears the entire characteristics of dispersion unshifted single-mode optical fiber and superior bending performance especially. It is applicable to transmission over entire wavelength from 1260nm to 1625nm. Under the condition of long wave band, the bending radius could be as little as 7.5mm with induced attenuation as low as 1dB at 1625nm.
执行标准	**Product Standard**
符合或优于ITU-T G.652.D/G.657.A2 & IEC 60793-2-50 B1.3/B6.a2型光纤技术规范。	Complies with or exceeds the ITU-T recommendation G.652.D/G.657.A2 and the IEC 60793-2-50 B1.3/B6.a2 optical fiber specifications.
产品特点	**Product Characteristics**
在7.5-15mm弯曲半径范围内，优良的抗弯曲性能；消除1383nm水峰吸收，实现1260nm~1625nm全波段传输；与现有G.652.D光纤完全兼容；优良的几何尺寸，确保低熔接损耗和高熔接效率；优异的PMD系数，满足传输系统的长中继距离和高速率要求。	Extremely high bending loss resistance in the 7.5 to 15mm bending radius range. It completely overcomes the attenuation of water peak at 1383nm and could operate over the entire wavelength from 1260nm to 1625nm. Completely compatible with existing G.652.D. Accurate geometrical parameters ensure low splicing loss and high splicing efficiency. Excellent PMD performance supports high-speed and long repeater spacing transmission system.

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	≤0.35
	1550nm	dB/km	≤0.21
	1625nm	dB/km	≤0.24
相对波长衰减变化	1285-1330nm vs. 1310nm	dB/km	≤0.04
Attenuation vs. Wavelength	1525-1575nm vs. 1550nm	dB/km	≤0.03
衰减不连续性（台阶）	1310nm	dB	≤0.05
Attenuation Discontinuity	1550nm	dB	≤0.05
衰减不均匀性	1310nm	dB/km	≤0.05
Attenuation Nonuniformity	1550nm	dB/km	≤0.05
衰减双向端差	1310nm	dB/km	≤0.05
Bidirectional Attenuation	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)	≤0.092
单根光纤偏振模色散最大值 Maximum PMD of Individual Fiber		ps/(km$^{1/2}$)	≤0.2
光缆截止波长λcc Cable Cutoff Wavelength λcc		nm	≤1260

模场直径 Mode Field Diameter	1310nm	μm	8.6±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-Cladding Concentricity Error	um	≤0.5
包层不圆度 Cladding Non-Circularity	%	≤1.0
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 Error	um	≤12.5
翘曲度 Curl	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 Temperature Cycling	- 60℃ ~ +85℃	dB/km	≤0.05
湿热老化附加衰减 High Temperature & High Humidity	85℃，RH85%，30 days	dB/km	≤0.05
浸水老化附加衰减 Water Immersion	23℃，30 days	dB/km	≤0.05
干热老化附加衰减 Dry Heat Aging	85℃，30 days	dB/km	≤0.05

光纤的机械特性/Mechanical Characteristics

特性 Characteristics		单位 Units	数值 Value
光纤筛选应力 Tensile Proof Test		N	≥9.0
		%	≥1.0
		Kpsi	≥100
涂层机械剥离力 Coating Strip Force	峰值 Peak Force	N	1.0-8.9
	平均值 Typical 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 Macrobending Attenuation			
半径 15mm，10 圈 15mm radius, 10 turns	1550nm	dB	≤0.03
	1625nm	dB	≤0.1
半径 10mm，1 圈 10mm radius, 1 turn	1550nm	dB	≤0.1
	1625nm	dB	≤0.2
半径 7.5mm，1 圈 7.5mm radius, 1turn	1550nm	dB	≤0.5
	1625nm	dB	≤1.0