

50/125/250µm PrimeLaser™ 300 Fiber

Product Information

Issue Date: 2004/5/25

This specification conforms to the requirement of IEC 60793 A1a, IEC 11801OM3 and ITU-T G.651. OM3-type 850 nm Laser-Optimized 50 µm Multimode Fiber for 10 Gb/s Application over 300 m

OPTICAL CHARACTERISTICS

Characteristics

| Characteristics | Conditions | Specified Values | Unit |
|----------------------------|------------|---------------------------------|------------|
| Attenuation Coefficient | 850 nm | ≤ 2.5 | [dB/km] |
| | 1300 nm | ≤ 0.7 | [dB/km] |
| Numerical Aperture | | 0.200 ± 0.015 | |
| Overfilled Modal Bandwidth | 850 nm | ≥ 1500 | [MHz·km] |
| | 1300 nm | ≥ 500 | [MHz·km] |
| Differential Mode Delay | 850 nm | Any one of the following masks: | |

Note: A minimum effective system modal bandwidth-length product of 2000 MHz·km is achieved when combining this 50µm fiber with transmitters meeting the following transmitter power distribution (per FOTP-203):

Encircled Flux at radius 4.5µm: ≤ 30% and
 Encircled Flux at radius 19µm: ≥ 86%
 (Ref.: TIA/EIA-492AAAC, ISO/IEC 11801)

| DMD Mask | DMD Inner Range (Radius 5 to 18 µm) [ps/m] | DMD Total Range (Radius 0 to 23 µm) [ps/m] |
|----------|--|--|
| 1 | ≤ 0.23 | ≤ 0.70 |
| 2 | ≤ 0.24 | ≤ 0.60 |
| 3 | ≤ 0.25 | ≤ 0.50 |
| 4 | ≤ 0.26 | ≤ 0.40 |
| 5 | ≤ 0.27 | ≤ 0.35 |
| 6 | ≤ 0.33 | ≤ 0.33 |

BACKSCATTER CHARACTERISTICS

| | | | |
|------------------------------------|---------|--------|-----------|
| Attenuation Directional Uniformity | | ≤ 0.05 | [dB/km] |
| Attenuation Uniformity | | ≤ 0.05 | [dB] |
| Group Index of Refraction | 850 nm | 1.481 | |
| | 1300 nm | 1.476 | |

PHYSICAL CHARACTERISTICS

| | | | |
|---|--|------------|----------|
| Core Diameter | | 50.0 ± 2.5 | [µm] |
| Core Non-circularity | | ≤ 5 | [%] |
| Core / Cladding Concentricity Error | | ≤ 1.5 | [µm] |
| Cladding Diameter | | 125 ± 1 | [µm] |
| Cladding Non-Circularity | | ≤ 1.0 | [%] |
| Coating Diameter | | 245 ± 10 | [µm] |
| Coating Non-Circularity | | ≤ 6 | [%] |
| Clad/Coat Concentricity Error | | ≤ 5 | [µm] |
| Fiber curl | | ≥ 4 | [m] |
| Proof Test | | 100 | [kpsi] |
| Bend Induced Attenuation at 1300 nm (100 turns around a mandrel of 75 mm diameter) | | ≤ 0.5 | [dB] |
| | | | |
| Coating Strip Force (Typical) | | 130 | [g] |
| Length (Typical) | | 4.4 ~ 8.8 | [km] |

ENVIRONMENTAL CHARACTERISTICS

| | | | |
|---|--|-------|-----------|
| Temperature Dependence at 850 nm and 1300 nm Induced Attenuation – 60°C to +85°C | | ≤ 0.1 | [dB/km] |
| Temperature And Humidity Cycling at 850 nm and 1300 nm Induced Attenuation – 10°C to +85°C, 90%R.H | | ≤ 0.2 | [dB/km] |
| Watersoak Dependence at 850 nm and 1300 nm Induced Attenuation at 23°C for 30 days | | ≤ 0.2 | [dB/km] |
| Damp Heat Dependence at 850 nm and 1300 nm Induced Attenuation at 85°C, 85%R.H., 30 days | | ≤ 0.2 | [dB/km] |

Prime Optical Fiber Corporation
 No.11, Ke Jung Rd.
 Science-Based Industrial Park
 Chu-Nan, 350, Miao-Li County, Taiwan, R.O.C.
 Tel: 886-37-586999 Fax: 886-37-586899
 E-mail: sales@pofc.com.tw

