

50/125 μm Multi-mode Optical Fiber for Gigabit Ethernet

SAMSUNG 50/125 μm multi-mode Optical Fiber for Gigabit Ethernet is specially designed fiber for LD based Gigabit Ethernet and other high speed laser based LAN protocols. It is a graded-index multi-mode fiber, suitable for high

performance premise cable applications including backbone, riser, and horizontal networks. It shows excellent compatibility with legacy 50/125 μm fiber systems.



FEATURES / BENEFITS

- High performance multi-mode fiber optimized for laser based high speed LAN protocols
- Guarantee up to 600 meters (at 850 nm / 1300 nm) of transmission distance in Gigabit Ethernet (IEEE802.3z) compliant systems

APPLICATIONS

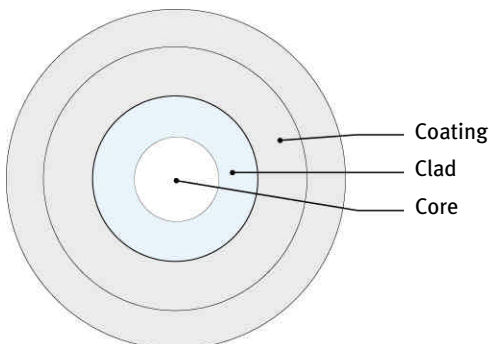
- Laser based Gigabit Ethernet
- Higher data rate Local Area Networks and campus networks

QUALITY TESTING

- Every spool of fiber is tested to assure top quality and performance
- All test procedures comply with ITU recommendations, IEC and EIA Standards

DESIGN

- **Core** Center of the optical fiber, which carries the light
- **Clad** Confines the light to the core, using total internal reflection principles
- **Coating** A dual layer provides a microbend free environment, which also protects the optical fiber from external influences and absorbs shear forces



50/125 μ m Multi-mode Optical Fiber for Gigabit Ethernet

OPTICAL SPECIFICATIONS

BANDWIDTH PERFORMANCE

Parameters		Performance
LED Based	@ 850 nm	Min. 500 MHz-km (Over Filled Launch BW)
	@ 1300 nm	Min. 500 MHz-km (Over Filled Launch BW)
Laser Based	@ 850 nm	Operating Distance : 600 m for Gigabit Ethernet (IEEE 802.3z)
	@ 1300 nm	Operating Distance : 600 m for Gigabit Ethernet (IEEE 802.3z)

ATTENUATION

Parameters		Premium	Standard
Attenuation (dB/km)	@ 850 nm	£ 2.4	£ 2.5
	@ 1300 nm	£ 0.6	£ 0.7

NUMERICAL APERTURE

- 0.200 ± 0.015

MACROBENDING LOSS

Mandrel Diameter (mm)	Number of Turns	Wavelength (nm)	Induced Attenuation (dB)
75	100	850 / 1300	£ 0.5

DIMENSIONAL SPECIFICATIONS

Parameters		Unit	Specification
Glass	Core Diameter	μ m	50.0 ± 3.0
	Clad Diameter	μ m	125.0 ± 1.0
	Clad Non-Circularity	%	£ 2.0
	Core-Clad Concentricity Error	μ m	£ 3.0
Coating	Coating Diameter	μ m	245 ± 10
	Coating Concentricity Error	μ m	£ 10.0

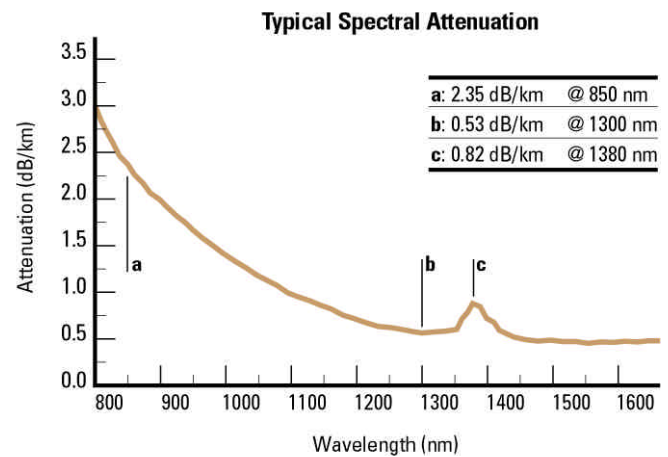
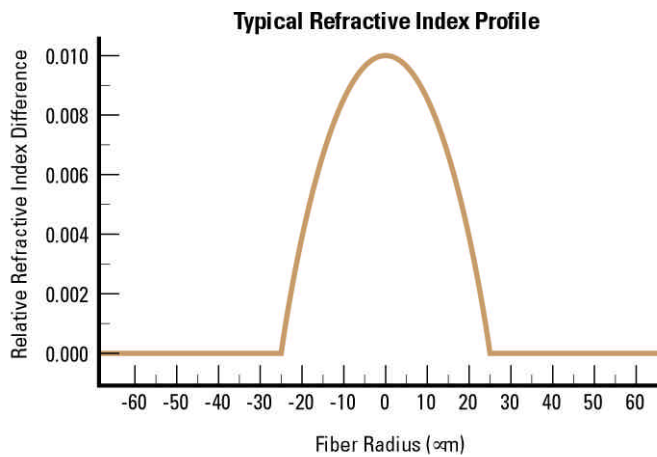
STANDARD FIBER LENGTH

- 1.1 ~ 8.8 km per spool

50/125 μm Multi-mode Optical Fiber for Gigabit Ethernet

MECHANICAL & ENVIRONMENTAL SPECIFICATIONS

Parameters	Specifications
Proof Test Level	≥ 100 kpsi
Temperature Dependence ($-60^{\circ}\text{C} \sim +85^{\circ}\text{C}$)	≤ 0.2 dB/km @ 850 nm & 1300 nm
Temp.-Humidity Cycling ($-10^{\circ}\text{C} \sim +85^{\circ}\text{C}$, 98% RH)	≤ 0.2 dB/km @ 850 nm & 1300 nm
Coating Strip Force	1.3 ~ 5.5 N



50/125 μ m Multi-mode Optical Fiber for Gigabit Ethernet

ORDERING INFORMATION

Product Type	Description	Specification (x)
SF-MMG5 - x	50/125 μ m Multi-mode fiber for Gigabit Ethernet	P : Premium S : Stadard

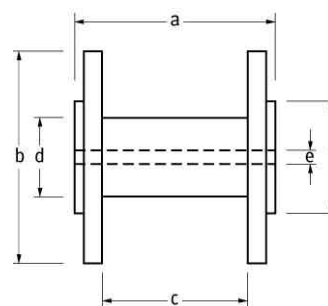
* Change x in the left column with the code in the right column for your choice

PACKAGING AND TEST CERTIFICATION

PACKAGING

- Optical fiber is wound on a shipping spool for which dimensions are:

a = width of outside flanges	120 mm
b = flange diameter	248 mm
c = width of inside flanges	95 mm
d = barrel out-diameter	150 mm
e = bore diameter	25.4 + 0.5 / -0.1 mm
f = wing diameter	160 mm



LABEL

- A label attached to each shipping spool contains at least the following information:

- Fiber I.D.
- Fiber Length
- Attenuation at 850 nm & 1300 nm
- Bandwidth at 850 nm & 1300 nm

TEST CERTIFICATION

- One copy of a test certification sheet is enclosed in the shipping carton.
- The sheet contains at least the following information.

- Fiber I.D.
- Fiber Length
- Attenuation at 850 nm & 1300 nm
- Bandwidth at 850 nm & 1300 nm
- Numerical Aperture
- Geometries of the fiber and coating

Samsung Electronics Fiberoptics Division
 7th Floor, Samsung Main Building 250, 2-Ga,
 Taepyung-Ro, Chung-Gu, Seoul, Korea 100-742
 Tel: +82-2-751-2529 Fax: +82-2-751-2687
 e-mail: fiberoptics@samsung.com

Samsung Telecommunications America
 1130E, Arapaho Road, Richardson, TX 75081
 Toll Free Number: 1-877-ssoptic/1-877-776-7842
 Fax: 1-972-761-7349