SAMSUNG ELECTRONICS

50/125 µm Multi-mode Optical Fiber SF-MM5

Product Information

SAMSUNG 50/125 µm multi-mode optical fiber is a graded index fiber with a 50 µm core and 125 µm cladding diameter. It is suitable for fiber optic networks based on Ethernet, Fibre Channel, FDDI, ATM, and Token Ring protocols. It offers superior performance and reliability for backbone, riser, and horizontal applications in premise networks.

PI-1215
ISSUED : 06/02

FEATURES / BENEFITS

- Optimized for 850 nm and 1300 nm dual wavelength ranges
- Coated with a high performance dual acrylate coating for long-term reliability
- Excellent compatibility with any commercial fiber in legacy network systems

APPLICATIONS

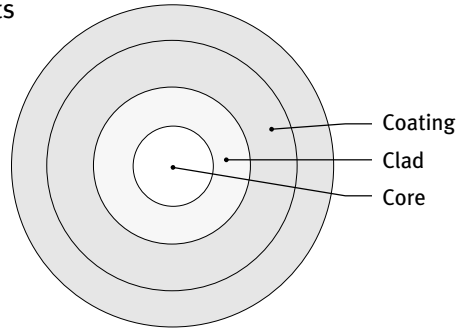
- Local Area Networks and campus networks with high data-rate voice, video and data communication systems using LEDs, VCSEL or Fabry-Perot lasers

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 µm Multi-mode Optical Fiber

OPTICAL SPECIFICATIONS

ATTENUATION AND BANDWIDTH

Parameters		Premium	Standard
Attenuation (dB/km)	@ 850 nm	≤ 2.4	≤ 2.5
	@ 1300 nm	≤ 0.6	≤ 0.7
Point Discontinuity (@ 850 nm & 1300 nm)		≤ 0.10 dB	
Bandwidth (MHz·km)	@ 850 nm	≥ 600	≥ 400
	@ 1300 nm	≥ 1000	≥ 600

Note) Other attenuation and bandwidth cells are available on request

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	µm	50.0 ± 3.0
	Clad Diameter	µm	125.0 ± 1.0
	Clad Non-Circularity	%	≤ 2.0
	Core-Clad Concentricity Error	µm	≤ 3.0
Coating	Coating Diameter	µm	245 ± 10
	Coating Concentricity Error	µm	≤ 10.0

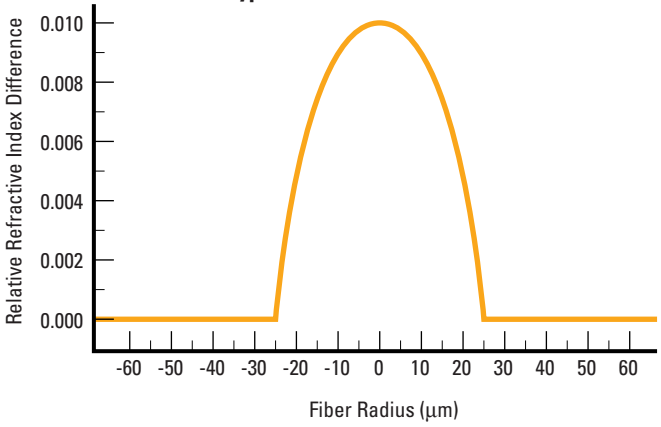
STANDARD FIBER LENGTH

- 1.1 ~ 8.8 km per spool

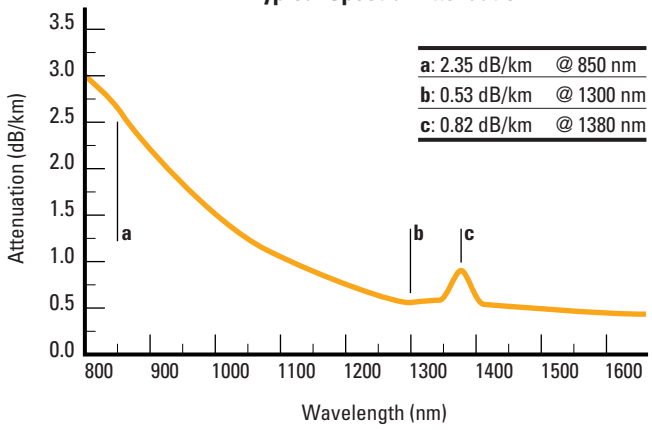
MECHANICAL & ENVIRONMENTAL SPECIFICATIONS

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

Typical Refractive Index Profile



Typical Spectral Attenuation



ORDERING INFORMATION

Product Type	Description	Specification (x)
SF-MM5 - x	50/125 μm Multi-mode fiber	P : Premium S : Standard

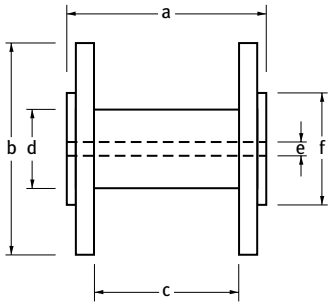
* Change x in the left column with the code in the right column for your choice

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
REGISTERED TO ISO9001
CERTIFICATE NO.9243

SAMSUNG ELECTRONICS
REGISTERED TO TL9000
CERTIFICATE NO.9243

SAMSUNG ELECTRONICS
REGISTERED TO ISO14001
CERTIFICATE NO.9872

SAMSUNG ELECTRONICS
REGISTERED TO ISO18001
CERTIFICATE NO.9872

www.samsungfiberoptics.com

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

Please contact us for more information on Samsung Fiber Optic Products