D-type multimode fiber



Overview

This fiber is a bend-insensitive, graded-index multimode fiber designed for transmission speeds of 1 Gbps but also appropriate for transmission speeds of up to 10 Gb/s.

Key Takeaways

D-type multimode fiber is a variant of multimode optical fiber, typically corresponding to legacy or vendor-specific classifications similar to OM1 or OM2, designed for short-distance data transmission with a larger core diameter.

Overview

Multimode fiber (MMF) is an optical fiber type used primarily for short-distance communication, such as within buildings, campuses, or data centers. It has a larger core diameter (50–62.5 µm) than single-mode fiber, allowing multiple light modes to propagate simultaneously. This enables high data throughput over short distances but limits maximum transmission length due to modal dispersion.

Multimode fiber is cost-effective because it uses LED or VCSEL light sources, which are less expensive than single-mode laser modules.

Core Characteristics

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Core Diameter: Typically 50 µm (OM2–OM5) or 62.5 µm (OM1)Cladding Diameter: Standard 125 µmTransmission Wavelengths: 850 nm and 1300 nmData Rates: Up to 10 Gbps for OM1/OM2, higher for OM3–OM5Maximum Distance: OM1 supports 10G Ethernet up to 33 meters, OM2 up to 82 meters, while OM3/OM4/OM5 extend distances significantly ApplicationsD-type multimode fiber, like OM1 or OM2, is typically used for: Legacy LAN and campus networksShort-range Ethernet connections (1G–10G)Backbone cabling within buildingsFiber to the desktop or telecom enclosures It is less suitable for modern high-speed data centers, where laser-optimized fibers (OM3, OM4, OM5) are preferred due to higher bandwidth and longer reach.

Comparison with Other Multimode FibersFiber TypeCore DiameterMax 10G DistanceTypical UseOM162.5 µm33 mLegacy 100M–1G EthernetOM250 µm82 m1G Ethernet, limited 10GOM350 µm300 m10G–40G Ethernet, data centersOM450 µm400 m10G–100G Ethernet, high-speed linksOM550 µm400 m+Wideband multimode, SWDM applicationsD-type fibers generally align with OM1 or OM2 specifications, featuring larger cores and LED sources, making them suitable for short-distance, cost-sensitive installations. SummaryD-type multimode fiber is a short-range, legacy-style multimode fiber with a relatively large core, optimized for low-cost, short-distance networking.

While modern networks increasingly use OM3–OM5 fibers for higher speeds and longer distances, D-type fibers remain relevant in older infrastructures or specific enterprise applications.

Article Content

Multimode Fiber Data Sheet

This fiber is a bend-insensitive, graded-index multimode fiber designed for transmission speeds of 1 Gbps but also appropriate for transmission speeds of up to 10 Gb/s.

Multimode Fiber Types: OM1 vs OM2 vs OM3 vs OM4

Identified by ISO 11801 standard, multimode fiber optic cables can be classified into OM1 fiber, OM2 fiber, OM3 fiber, OM4 fiber and newly released

Multi-mode optical fiber

Because multi-mode fiber has a larger core size than single-mode fiber, it supports more than one propagation mode; hence, it is limited by modal dispersion, while

A Guide to Multimode Fiber Types (OM1-OM5) –

Given the inherent distance limitations of multimode fiber optical cable, this type of fiber is perfect for any kind of home use, even underground

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Multimode Fiber Cable Types: OM1/OM2/OM3/OM4/OM5 Compared

This comprehensive guide explores Multimode Fiber Cable Types, covering technical specifications, deployment scenarios, and best practices to help you optimize your fiber infrastructure

Multimode Fiber Types: OM1 vs OM2 vs OM3 vs OM4

A complete guide to multimode fiber types OM1, OM2, OM3, OM4, and OM5. Compare speed, distance, bandwidth, and applications, and learn how

Types of Optical Fibers: Single-Mode vs. Multimode,

Types of optical fibers, their applications and future trends is the topic of this blog article. Optical fibers are among the most transformative technologies

Guide To Multimode Fiber (62.5um & 50um, OM1 to OM5)

Multimode fiber typically operates at a wavelength of 850 nm as it allows for the use of lower-cost, light-emitting diode (LED) sources as the light source over shorter

Single Mode vs. Multimode Fiber: Core Differences and Selection Guide

How do you choose between single mode and multimode fiber? Compare their differences in core size, light source, bandwidth, transmission distance, and cost to identify the right application.

The Ultimate Guide to Multimode Fiber Optic Cable

Multimode fiber optic cables are essential in modern data communication systems since they can transmit data efficiently and at high

Fiber Optic Cable Types – Multimode and Single Mode

Single mode fiber is the standard choice for high data rates or long distance spans and can carry signals at much higher speeds than multimode fibers with less signal attenuation and external interference.

Multimode Fiber Data Sheet

OM5 Fiber 50/125 This fiber is a laser-optimized, bend-insensitive, graded-index multimode fiber designed for transmission speeds of 10 Gb/s and beyond. OM5 is backwards compatible with OM4

Fiber Optic Cable Types Explained

Our comprehensive guide to types of fiber optic cables. Learn all about the differences between single mode and multimode cables, as well as the various fiber wavelengths and standard core sizes used

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Multimode Fiber Types: OM1 vs. OM2 vs. OM3 vs. OM4 vs. OM5

Multimode fiber optic cables are widely used for short-range communication applications. Different generations of multimode fibers, designated as OM1, OM2, OM3, OM4, and OM5, have

Understanding the Differences Between OM4 and OM5 Multimode Fiber

Learn the basics of multimode fiber and the evolution of the different fiber standards as well as the differences between OM4 and OM5 and when OM5 is an appropriate choice and when

Singlemode vs Multimode Fiber Optic Cable

We breakdown the differences between single mode and multimode fiber optic cable, covering aspects like physical structure, bandwidth over

Multimode Fiber Standards: OM1 vs OM2 vs OM3 vs

Discover the different multimode fibers. Learn core sizes, bandwidth, Ethernet applications, and why OM5 is ideal for 100G/400G data centers.

Optical Fiber Types

ITU Standards The ITU has defined a series of recommendations that describe the geometrical properties and transmissive properties of multimode and single-mode fiber-optic cables. The four

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