SO2 single-mode fiber

Article Overview

SO2 (OS2) single-mode fiber is a high-performance optical fiber designed for long-distance, high-speed data transmission with minimal signal loss.

Overview

SO2, commonly referred to as OS2 single-mode fiber, is a type of optical fiber optimized for long-haul and high-speed applications. It guides light in a single path through a small core (typically 8–10 µm), which minimizes modal dispersion and allows signals to travel over long distances without significant degradation . This makes OS2 ideal for telecom backbones, data center interconnects, and enterprise networks.

Technical Specifications

• Core Diameter: 8–10 µm
• Cladding Diameter: 125 µm
• Wavelength Range: 1260–1625 nm, covering both the O-band (1310 nm) and C-band (1550 nm)
• Maximum Transmission Distance: Up to 10 km at 1310 nm and 40 km at 1550 nm for Ethernet applications
• Data Rates: Supports 1G, 10G, 40G, 100G, and even 400G Ethernet connections
• Construction: Dual-layer protective coating (plastic + waterproof acrylate) with tightly buffered design for flexibility and crush resistance
• Standards Compliance: ITU-T G.652 (including G.652.D), IEC 60793-2-50, ISO 11801 OS2, TIA-492-CAAB, and Telcordia GR-20...

Article Content

Jan 27, 2026

OS1/OS2 Singlemode Optical Fiber

These fibers ensure performance over the entire 1260nm to 1625nm spectrum and are compatible with legacy fiber and the

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Single-Mode vs Multimode Fiber: OS2, OM3, OM4 Explained for

Single-mode (OS2) vs multimode (OM3, OM4, OM5) fiber optic guide. Connector types, cost comparison, and

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What is the difference between OS1 and OS2 Singlemode Optical Fibre?

Connector Compatibility OS1 and OS2 fibre optics are compatible with standard single-mode connectors, such as SC, LC, and ST

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Single Mode vs Multimode Fiber, What is The Difference?

Learn the key differences between single mode vs multimode fiber cables and choose the right one for your fiber optic

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What does OS1, OS2, OM1, OM2, OM3 and OM4 mean? | Proterial

ISO/IEC 11801 fiber optic labels: OS for singlemode, OM for multimode. OM1-OM4 & OS1-OS2 vary by performance & material.

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Single-Mode Fiber Cable Guide: Types, Specs & Selection

Complete guide to single-mode fiber optic cables: G.652, G.657.A1/A2, OS1/OS2 specs, attenuation values,

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OS1 vs OS2: The Ultimate Guide to Single-Mode Fiber Optic Cables

In the world of telecommunications and high-speed networking, single-mode fiber optic cables are the gold standard

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FAQs on OS2 Single Mode Fibers

In fiber optic technology, OS2 refers to single-mode fiber (SMF), which is specifically designed for transmitting a

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OS2 Single Mode Fiber Optic Cables, SMF Duplex Cables

Get OS2 single mode duplex fiber patch cables for 1G/10G/40G/100G/400G Ethernet fiber connections to transport data up to 10km

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Differences between OS1, OS2, & OM1, OM2, OM3, OM4, and OM5

Fiber Optic Cable Selection Guide OM vs OS Fiber Cable: OS1, OS2, OM1, OM2, OM3, OM4 and OM5 Explained OM

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Single Mode Fiber: OS1 vs OS2 Fiber

Single Mode Fiber: OS1 vs OS2—compare construction, attenuation, and distance to choose the right fiber for indoor

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OS1, OS2 vs OM1-OM5 Fiber Cables: Differences, Speeds, and

Explore the differences between OS1, OS2 (single-mode) and OM1, OM2, OM3, OM4, OM5 (multimode) fibers. Learn

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IEEE 802.3 Single-mode Optical Fiber Ethernet Standards

Single-mode Ethernet Standards Update! The TIA FOTC provides overviews and updates for published and emerging IEEE 802.3

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OS1 vs OS2: The Ultimate Guide to Single-Mode Fiber Optic Cables

Both OS1 and OS2 are categories of single-mode fiber (SMF) under the ISO/IEC 11801 standard, designed to carry

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Single-mode optical fiber

Unlike multi-mode optical fiber, single-mode fiber does not exhibit modal dispersion. This is due to the fiber

Dec 29, 2025

Optical Fiber Types

ITU G.655 Covers single-mode NZ-DSF (nonzero dispersion-shifted) fiber), which takes advantage of dispersion characteristics that

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Draka OS2 9/125 Armoured Loose Tube Fibre Optic Cable

OS2 Fibre Mode: Singlemode Bandwidth MHz/km @850nm: 0.39 Bandwidth MHz/km @1300nm: 0.25 Order by 4.30pm for delivery

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OS1 vs OS2 Single Mode Fiber: Key Differences, Use Cases & Best ...

Discover the key differences between OS1 and OS2 single mode fiber. Learn specifications, applications, and which

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Comprehensive Resolve OS2 Single Mode Fibers FAQ

Comprehensive Resolve OS2 Single Mode Fibers FAQ By fiberlife. Posted on July 4, 2024 In today''s information age,

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Comparison Between OS1 and OS2 SMF Cables

OS1 vs OS2, the differences between these two kinds of single mode fiber optic cables lie in standard, cable

Aug 09, 2025

Recommendation ITU-T G.652 (08/2024)

This document outlines the specifications for a single-mode optical fiber and cable designed for use around

Jan 17, 2026

OS1 and OS2 Singlemode fiber

This article explains clarifies the subtle differences between the European specifications of single-mode fibers

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Single-Mode Optical Fiber (SMF)

First class reliability thanks to Draka proprietary processes and coating system Draka Single-Mode Fiber (SMF) provides optimum

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Single Mode Fiber: OS1 vs OS2 Fiber

While both are single-mode fibers designed for long-distance, high-bandwidth transmission, understanding the key

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Single Mode Fiber Cables, Single-mode Duplex Cables, OS2 Patch

OS2 SC SC Indoor/Outdoor Fiber Patch Cables | Duplex Single-Mode Fiber Jumper with Corning 9/125um core/cladding. A rugged,

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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,

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