

Comparison of high temperature resistance and reliability of mini PLC splitters



Overview

FBT Splitters: More sensitive to temperature changes, which can affect performance and reliability. This article provides a detailed technical comparison of FBT and PLC splitters to help network designers, procurement managers, and field engineers make informed decisions aligned with their specific project requirements. PLC splitters utilize integrated optical circuits to split signals via on-chip waveguides. While both splitter types have advantages, their characteristics make certain applications more suitable. FBT splitters, based on fused fiber tapering, offer simplicity and affordability, while PLC splitters, fabricated. Wavelength Sensitivity: Traditional FBT splitters are optimized for specific wavelengths (commonly 1310nm, 1490nm, and 1550nm). Temperature Sensitivity: Their performance can be more susceptible to fluctuations in temperature. A PLC splitter (Planar Lightwave Circuit Splitter) is an essential passive component in fiber optic networks.



Article Content

Jan 14, 2026

Reliability Analysis and Testing of Fiber optic PLC Splitters

Fiber optic passive lightwave components, especially fiber optic PLC splitters, play a critical role in optical networks.

Feb 21, 2026

Novel research on reliability of silica-based PLC optical splitters

Therefore, simulation on temperature field distribution, thermal stress and thermal strain of PLC optical splitters for

Dec 10, 2025

Experimental Research on In Situ Uniaxial Tensile Response of Silica ...

In order to reduce the maintenance and operation costs of the optical network, high reliability PLC optical splitters are

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FBT vs PLC Splitter: Essential Differences You Should Know

PLC splitters are friendly to extreme weather conditions, withstanding temperatures ranging from -40°C to 85°C. But

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PLC Splitter Types: A Quick Selection Guide

Discover the key differences between FS's six types of PLC Splitters, including bare fiber, blockless, ABS, LGX, FHD®,

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Experimental-numerical studies of failure behavior of PLC optical ...

Previous studies have mainly focused on the performance reliability of PLC optical splitters under temperature and

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Research on drop reliability of PLC optical splitters by online test ...

Atsushi et al. tested the reliability of PLC optical splitters installed outdoors in different cities. According to GR-1209

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Differences Between FBT Coupler and PLC splitters

PLC splitter operates at wider temperature range (-40 to 85 C), allowing its deploying in the areas of extreme climate.

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FBT vs. PLC Splitter Comparison: What is the difference? (2026)

In 2026, as fiber-optic communication continues to evolve, the selection of optical splitters as fundamental components

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Comparing PLC Splitters: Types, Features, Pros, and Cons

Discover the different types of PLC splitters available in the market. Learn about their key features, specifications,

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PASSIVE OPTICAL SPLITTER

Before large-scale deployments of FTTx, most splitter modules and other passive optical components were installed in central offices

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Online Research on Reliability of Thermal-Vibration Coupling for PLC ...

The working environment of Planar Lightwave Circuit (PLC) optical splitter is complex and diverse. In addition to withstanding the test

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Understanding the Differences Between FBT and PLC

PLC splitters can handle higher split ratios compared to FBT splitters, making them suitable

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The Comparative Analysis of PLC and FBT Optical Splitters

Currently, two principal types of optical splitters have emerged to address the challenges of optical signal distribution:

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FBT vs PLC Splitter: Essential Differences You Should Know

Fiber splitters are divided into FBT and PLC splitters. They differ in wavelength, port, splitting ratio, failure rate,

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FBT vs. PLC splitters

This section provides a comprehensive comparative analysis of FBT (Fused Biconical Taper) splitters and PLC (Planar Lightwave

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Novel Research on Reliability of Silica-based PLC Optical Splitters

Previous work on the reliability of PLC optical splitters can be classified into two categories, one of which is to conduct

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Research on drop reliability of PLC optical splitters by online test

Previous work on the reliability of PLC optical splitters can be classified into two categories, one of which is to conduct

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FBT vs PLC Splitters: A 2025 Comparison for Fiber Optic Networks

When it comes to splitters, two main technologies dominate: Fused Biconical Taper (FBT) and Planar Lightwave

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FBT vs PLC Splitters – Key Differences in Fiber Networks

FBT splitters and PLC splitters are two popular types of splitters used in the telecommunication industry. While they

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High reliability optical splitters composed of silica-based planar ...

The environmental and mechanical reliability of a planar lightwave circuit (PLC)-type optical splitter modules is investigated with

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PLC vs FBT Fiber Splitters for ODN and FTTH Networks

Technical comparison of PLC and FBT splitters covering structure, operating wavelength, uniformity, split ratios,

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Optical packaging of PLC optical splitter and their reliability tests

Optical packaging process and the results of reliability tests of a 1x4 optical power splitter is presented. In this process,

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FBT vs PLC Splitter: Choosing the Backbone of Your Optical Network

FBT Splitter vs PLC Splitter: Compare technology, cost, reliability, and best uses to choose the right fiber optic splitter

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FBT vs. PLC Splitters: A Technical Comparison for Network Deployment

This article provides a detailed technical comparison of FBT and PLC splitters to help network designers, procurement managers,

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PLC Splitter vs FBT Splitter, How to Choose?

FBT splitters and PLC splitters are two popular types of splitters used in the

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Online Reliability of Planar Lightwave Circuit Splitters

This paper focus on the optical performance of the Planar Lightwave Circuit (PLC) splitters in real-time testing and

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FBT vs PLC Splitters: A Comprehensive Comparison of Fiber Optic ...

Selecting between FBT and PLC splitters requires careful consideration of specific network requirements, including

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AN10-006

The technique for measuring isolation of more than a two-way splitter/combiner is exactly the same as that just described; just make

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FBT vs PLC Splitters: Key Differences & Cost Comparison 2026

Compare FBT vs PLC fiber splitters: key differences in insertion loss, temperature range, cost & size. Find the right

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Comparison of FBT and PLC Fiber Optic Splitters

A PLC is a micro-optical component based on planar lightwave circuit technology and provides a low cost light

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FBT vs PLC Splitters – Key Differences in Fiber Networks

Discover FBT vs PLC splitters in fiber optic networks. Learn key differences, pros & cons, and best use cases for

Jun 22, 2026

Research on drop reliability of PLC optical splitters by online test ...

Through the drop online test experiment, the drop reliability of the PLC optical splitter was studied. It was found that the

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