Comparison of Low-Loss Optical Circulators and Which is More Reliable

Faraday circulators (or less specifically optical circulators) are a kind of non-reciprocal optical devices. They are technically related to Faraday isolators, and on a broader scale similar to electronic ...

We demonstrate novel all-fiber and magnetic-field-free circulators based on Mach-Zehnder interferometers including so-called fiber null-couplers. Their low insertion loss makes them ideal tools ...

The method presented in this paper is useful in designing compact, low insertion loss (or high isolation), and broadband circulators in large-scale integrated photonic crystal circuits.

A 6-port optical circulator using silicon photonic crystals has been designed and proposed in this paper as an essential component of an optical communication system.

Compared to conventional single-channel circulators, the 8-channel circulators exhibit lower insertion loss between input and output ports and higher isolation between the input and other ...

Because of their high isolation of the input and reflected optical powers and their low insertion loss, optical circulators are widely used in advanced fiber-optic communications and fiber-optic sensor ...

of low-loss non-reciprocal fiber-based devices. Here, we present a solution to this issue by realizing low-loss (0.81 dB), broadband (at least 50 GHz bandwidth) and high-extinction (up to 27 ...

This paper presents the fundamental principles of the optical circulator, and goes on to report on development of a marketable 3-port optical circulator that achieves low loss by optimizing losses ...

Using a low-quality optical circulator can lead to substantial data loss due to high insertion loss and poor isolation, negatively impacting the performance and reliability of optical communication ...

Expert guide to optical isolators and circulators, including PM circulators. Learn how to select the right component.

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