

Before comparing different optical receiver concepts and discussing the most relevant receiver design trade-offs, we introduce some important receiver performance measures.

Define: Receiver Sensitivity is the minimum average power needed to achieve a certain BER at a given bit-rate. The receiver sensitivity is measure at the receiver input.

In this section, we discuss techniques to characterize optical receivers, with a focus on the wideband characterization of their frequency response.

An important property of the optical receiver is the relation between the optical input signal level and the electrical output signal level. An increase of the optical input signal with 1 dB results in an increase of ...

9.1 Introduction the design of optical receivers. As signals travel in a fiber, they are attenuated and distorted, and it is the function of the receiver circuit at the other side of the fiber to generate a clean ...

Since most lightwave systems employ the binary intensity modulation, we focus on digital optical receivers. The figure below shows a block diagram of such a receiver.

DCD, also called pulse width distortion (PWD), is the difference in pulse width of a one compared to the pulse width of a zero. This causes an eye diagram with the crossings offset up or down from the ...

The eye pattern measurements are made in the time domain and allow the effects of waveform distortion to be shown immediately on the display screen of standard BER test equipment.

How to get a differential output with a single-ended photocurrent input?

This application note provides an in-depth analysis of the complete receiver optical sensitivity and the potential power penalties related to the accumulation of random noise and inter-symbol interference ...



# Optical Receiver Input Output and Distortion

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