Fiber Optic Communication Experiment Report LED Electro-optical Characteristics

Preview

This laboratory experiment investigates the characteristics of various LEDs using PMMA fibers and the CASSY Lab interface. The role of the optical transmitter is to convert an electrical input signal into the corresponding optical signal and then launch it into the. This manual contains ten laboratory experiments to be performed by students taking the optical fiber communication course (EE 420). Data sheets for the was 10mA as 200mW. Hence, the efficiency of the LED comes out to be approx. It focuses on measuring differential resistance and analyzing the relationship between voltage, current, and optical power output in LEDs. No part of this can be reproduced in any form by any means without the prior written permission of the Head of the Department, E ectronics and Communication Engineering, Colleg surement of Numerical Aperture of Fiber. A Light Emitting Diode (LED) is a semiconductor diode that emits light when an electric current is applied in forward direction of the device as in simple LED circuit. The effect is a form of electroluminescence where incoherent and narrow-spectrum light is emitted from the p-n junction.

The EE 420 students are strongly encouraged to read this guide and the sample report, because they stress and clarify a number of

The most significant features of LEDs, which are used for optical communication, include high modulation rate capability, high

system. Experiments and Projects using Light Runner and Rsoft, OptiSim will be carried out in the Laboratory. The Experiment topics

For fiber optic communication purpose most suited photo detectors are PIN (p-type- Intrinsic-n-type) diodes and APD (Avalanche

History and evolution of LEDs in data transmission The use of LEDs in optical communications dates back to the

Upon completing the activities, you will have gained a better understanding of fiber optics from having worked with real fiber optics

Fiber-optic communication is a method that we can transmitting information by sending pulses that carry information through an

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Study Of LED and Detector Characteristics

CHARACTERISTICS OF LED Aim: The aim of the experiment is to study the relationship between the LED dc forward current and

The major component of optical transmitters is an optical source. Fiber-optic communication systems often use semiconductor

LED performance differences help link designers decide which device is appropriate for the intended application. For short-distance

This laboratory report will discuss the characteristics of optical fibers, specifically, the single-mode fiber (S MF) and the multi-mode

UNIT I general Optical Fiber communication system, advantages of optical fiber communications. Optical fiber wave guides-

There are two different kinds of optical sources are used in optical communication. They are semiconductor Light

Fiber optics systems cannot always be installed with a single uninterrupted length of optical fiber. Often, two or more fiber lengths

To be useful in fiber transmission applications and LED must have a high radiance output, a fast emission response time and high

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