

Backlight Module and Light Guide Mechanism



Overview

Quick answer: An LCD backlight module uses LEDs, optical films and a light guide or direct-lit array to provide reliable, uniform light across a TFT LCD panel. The light guide mechanism includes: a light guide plate and at least one secondary optical element. The light guide plate is provided with a light-emitting surface, a back surface positioned on the. Assigned to BOE OPTICAL SCIENCE AND TECHNOLOGY CO. ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS). This application is a national phase entry under 35 U. § 371 of International Application No. Because the liquid crystal molecule only function as the penetration level that doesn't illuminate spontaneously, it is necessary to add a backlight module. The backlight module is one of the main components in liquid crystal displays (LCDs). As liquid crystals themselves lack the ability to emit light, the function of the backlight module is to provide sufficient brightness and a uniformly distributed light source, making the display show images. What is backlight module?

Backlight Module, the light source of TFT-LCD, is constructed by optical films, light guide plate, LED light bar, back-cover and plastic case.



Article Content

LED Backlight System and Power Solutions

For direct-lit backlighting technology, LEDs are placed in a flat array behind the light guide plate and the LCD screen, which the light

Design of Integrated Light Guide Plate With Functional Structure of ...

An integrated light guide plate (LGP) with a functional structure for a longer diffusion length to decrease the thickness

Backlight Module Composition And Principle

The backlight module is composed of light source: LED, reflector, light guide plate, diffuser, Prism sheet, plastic frame, back plate

Light guide plate and backlight module

Light Guide Plate (LGP) is an important component of the backlight module. The function of the light guide plate is to guide the light

Structure of the direct illumination-type LED backlight module ...

The general direct illumination-type LED backlight module is shown in Fig. 1. It consists of a light source, a reflector, a dif- fuser plate,

PCB Layout Optimization for LED Backlight Module

The PCB layout for an LED backlight module involves the careful arrangement of various components, including the LED chips,

Backlight Module Introduction

Therefore, "Backlight Module" is one of the key components of the LCD panel. The backlight module is composed of the light source,

Design of a Highly-Efficient Light Guide Plate for the Edge Lighting ...

This study develops a highly-efficient light-guide plate for edge lighting backlight module that has no optical films. The light guide

Backlight module and light guide mechanism

A backlight module comprises a light guide mechanism and a plurality of light emitting units. The light guide mechanism includes: a

Unlocking LCD Brilliance: The Science Of Light Guide Plates

This article deeply analyzes the core working principle, key material properties, microstructure design, light source coupling

Backlight Module Technology-Core Technologies-Energy Saving

We provide OEM and ODM manufacturing services of backlight modules and display products for WW customers. We also provide

(a) Schematic diagram for an LCD backlight module with a side-type ...

This paper proposes a neural-network optical model for a backlight module of a liquid crystal display (LCD) to expedite the design of

High directional backlight using an integrated light guide plate

Abstract: A high directional backlight system that combined a composite microstructure light guide plate (LGP) with a collimated light

LCD Backlight Module Guide: Structure, Edge-Lit vs Direct-Lit

Quick answer: An LCD backlight module uses LEDs, optical films and a light guide or direct-lit array to provide reliable,

LCD Backlights | part of Flat Panel Display Manufacturing | Wiley ...

The chapter describes the BLU architecture and main parameters important for optical performances of BLU conceptually when its

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://yachtchartercapetown.co.za>

Email: info@yachtchartercapetown.co.za

Phone: +27 21 863 4927

Address: 1st Floor, The Towers, 1 St George's Mall, Cape Town, 8001, South Africa

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