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LED professional and Global IP News - LED patent newsletter, Nov. 29, 2014

Accobiotech SDN BHD and Genbody Inc Seek Patent for Multi-Fluorescent Substance Including Novel Coumarin Derivative and LED Light Source-Based Microfluorescent Quantitative Biosensor for Diagnosis Using Same

US Patent, Accobiotech SDN BHD and Genbody Inc

Accobiotech SDN BHD and Genbody Inc have sought a patent for multi-fluorescent substance including novel coumarin derivative and LED light source-based microfluorescent quantitative biosensor for diagnosis using same. Park Hyun, Kim Hak Sung, Song Hyun Ok, Chong Chom Kyu and Kim Sung Yeon developed the invention.

U.S. Patent and Trademark Office has released the abstract. According to the abstract, "The present invention relates to a novel coumarin derivative, to a method for preparing the same, and a multi-fluorescent substance that includes a plurality of the coumarin derivatives and is able to emit light using an LED light source. A novel coumarin derivative multi-fluorescent substance according to the present invention has an optimal emission wavelength band of 512 nm to 590 nm and thereby is effective in improving a signal intensity and stability since light emission using an LED light source is possible. In addition, higher fluorescence reactivity is exhibited compared to coumarin fluorescent substances known in the related arts since one molecule has a plurality of fluorescent substances, and the problem of the coumarin fluorescent substance possibly binding to a binding site of the antigen of the antibody is solved since fluorescence detection is possible even when a minimum number of fluorescent substance molecules bind to an antibody. Moreover, the novel coumarin derivative multi-fluorescent substance according to the present invention is suitably used in a fluorescent-linked immunosorbent assay (FLISA) and a rapid fluorescent immunochromatographic test (FICT) as an LED-based microfluorescent quantitative biosensor for diagnosis, therefore, diseases such as malaria may be rapidly and quantitatively analyzed."

Link to original patent

Marvell World Trade Seeks Patent for Current Shaping for Dimmable LED

US Patent, Marvell World Trade Ltd

Marvell World Trade has sought a patent for current shaping for dimmable LED. Sutardja Sehat, Sutardja Pantas and Zhang Wanfeng developed the invention.

U.S. Patent and Trademark Office has released the abstract. According to the abstract, "Aspects of the disclosure provide a circuit that includes a detector and a controller. The detector is configured to detect a firing start by a triode for alternating current (TRIAC) in a power supply. The controller is configured to control a switch in connection with a magnetic component in response to the firing start to shape a profile of a current pulled from the power supply to satisfy a latch current requirement and a hold current requirement of the TRIAC."

Link to original patent

Yujing Technology Applies for Patent on LED Car Light with Enhanced Cooling Effect

US Patent, Yujing Technology Co Ltd

Yujing Technology has applied for United States patent for LED car light with enhanced cooling effect. Huang Cheng-Feng developed it.

The abstract of the patent published by the U.S. Patent and Trademark Office states: "An LED car light with enhanced cooling effect has a light shell, a fixing base, an LED light module and a reflecting cover. The outer wall extends from the edge of the rear wall and surrounds the rear wall, wherein the outer wall has a cooling section. The fixing base is mounted in the light shell and corresponding in position to the cooling section. The LED light module is mounted on the fixing base and has a base board, a first LED light source and a second LED light source, wherein the base board is in thermal contact with the cooling section of the light shell. The first LED light source and the second LED light source are mounted on the base board. A cooling efficiency of the LED car light is increased due to the thermal contact between the cooling section and the base board."

Link to original patent

General Electric Submits United States Patent Application for Pivoting Heat Sink for LED Luminaire

US Patent, General Electric Company

General Electric has submitted a patent application for pivoting heat sink for LED luminaire. This invention was developed by Jezsoviczki Peter, Ambruska Georgina, Simonovics Janos, Samu Jozsef and Knapp Thomas.

An abstract released by the U.S. Patent and Trademark Office states: "An LED luminaire assembly which allows for the easy and safe removal and replacement of the PSU and other internal components wherein the heat sink can be folded or pivoted aside to allow access to and removal of the PSU."

Link to original patent

ABL IP Holdings Files United States Patent Application for LED Luminaire with Multiple Vents for Promoting Vertical Ventilation

US Patent, ABL IP Holdings

ABL IP Holdings has filed a patent application for LED luminaire with multiple vents for promoting vertical ventilation. This invention was developed by Pisavadia Sachin and Wilkes Christopher.

According to the abstract released by the U.S. Patent and Trademark Office: "Some features of the invention include a LED luminaire, including a chassis having a chassis body, the chassis body having an inner perimeter and an outer perimeter. At least one LED lighting module is mounted on the chassis body. A LED power supply assembly includes at least one LED power supply unit for the at least one LED lighting module. The LED luminaire further includes at least one inner perimeter vent interposed between the chassis body and the LED power supply assembly to thermally separate the chassis body from the LED power supply assembly. Outer perimeter vents may be located along the outer perimeter. The inner and outer perimeter vents promote the natural flow of air around and through the LED luminaire to remove heat generated by the at least one LED lighting module and/or LED power supply assembly. In certain features, the LED power supply assembly includes top and bottom vent covers, and the at least one LED power supply unit is located between the top and bottom vent covers. The top and bottom vent covers are vented to promote the natural flow of air through the LED power supply assembly, further removing heat generated by the at least LED one power supply unit. Yet other features include a shaped optic covering the at least one LED lighting module and that further promotes the natural flow of air around and through the LED luminaire."

Link to original patent

U.S. Patent and Trademark Office Receives University of California's Patent Application for Switched-Capacitor Isolated LED Driver

US Patent, University of California

U.S. Patent and Trademark Office has received University of California's patent application for switched-capacitor isolated LED driver. Sanders Seth R and Kline Mitchell developed the invention.

U.S. Patent and Trademark Office has released the abstract. According to the abstract, "A switched-capacitor voltage converter which is particularly well-suited for receiving a line voltage from which to drive current through a series of light emitting diodes (LEDs). Input voltage is rectified in a multi-level rectifier network having switched capacitors in an ascending-bank configuration for passing voltages in uniform steps between zero volts up to full received voltage V.sub.DC. A regulator section, operating on V.sub.DC, comprises switched-capacitor stages of H-bridge switching and flying capacitors. A current controlled oscillator drives the states of the switched-capacitor stages and changes its frequency to maintain a constant current to the load. Embodiments are described for isolating the load from the mains, utilizing an LC tank circuit or a multi-primary-winding transformer."

Link to original patent

Dai Nippon Printing Co Ltd Applies for Patent on Lead Frame for Mounting LED Elements, Lead Frame with Resin, Method for Manufacturing Semiconductor Devices, and Lead Frame for

Mounting Semiconductor Elements

US Patent, Dai Nippon Printing Co Ltd

Dai Nippon Printing Co Ltd has applied for U.S. Patent patent for lead frame for mounting LED elements, lead frame with resin, method for manufacturing semiconductor devices, and lead frame for mounting semiconductor elements. Oda Kazunori and Yazaki Masaki developed it.

The abstract released by U.S. Patent and Trademark Office states, “A lead frame for mounting LED elements includes a frame body region and a large number of package regions arranged in multiple rows and columns in the frame body region. The package regions each include a die pad on which an LED element is to be mounted and a lead section adjacent to the die pad, the package regions being further constructed to be interconnected via a dicing region. The die pad in one package region and the lead section in another package region upward or downward adjacent to the package region of interest are connected to each other by an inclined reinforcement piece positioned in the dicing region.”

Link to original patent

Switch Bulb Company Inc Submits Patent Application for Liquid Displacer in LED Bulbs

US Patent, Switch Bulb Company Inc

Switch Bulb Company Inc has submitted a patent application for liquid displacer in LED bulbs. Horn David, Moylan Christopher R and Wheelock Glenn developed the invention.

The abstract released by U.S. Patent and Trademark Office states, “An LED bulb includes at least one LED mount disposed within a shell. At least one LED is attached to the at least one LED mount. A thermally conductive liquid is held within the shell. The LED and LED mount are immersed in the thermally conductive liquid. A liquid displacer is immersed in the thermally conductive liquid. The liquid displacer is configured to displace a predetermined amount of the thermally conductive liquid to reduce the amount of thermally conductive liquid held within the shell. The liquid displacer is also configured to facilitate a flow of the thermally conductive liquid from the LED mount to an inner surface of the shell.”

Link to original patent

U.S. Patent and Trademark Office Publishes Tang Chi-Pao's Patent Application for LED Sphere Lighting Device

US Patent, Tang Chi-Pao

U.S. Patent and Trademark Office has published Tang Chi-Pao's patent application for LED sphere lighting device. The invention was developed by Tang Chi-Pao.

The abstract released by U.S. Patent and Trademark Office states, “The invention provides a light

emitting diode (LED) sphere lighting device. The LED sphere lighting device comprises a power connector. The power connector is configured with a heat sink, and the heat sink is configured with a lamp cover. An LED lighting device is disposed in the lamp cover and electrically connects to the power connector. The improvement comprises: the lamp cover is a sphere shell; a largest diameter of the lamp cover is larger than a diameter of the top surface of the heat sink; and the lamp cover has a curved surface extending outward, bending, and enlarging from the top surface of the heat sink to increase an illumination angle."

Link to original patent

Pietrella Luca Seeks Patent for LED Luminaire

US Patent, Pietrella Luca

Pietrella Luca has sought patent for LED luminaire. This invention was developed by Pietrella Luca.

The abstract released by U.S. Patent and Trademark Office states, "A LED luminaire has a first printed circuit board (PCB) and a second PCB spaced in such manner to generate an empty gap. Spacers are interposed between the first PCB and second PCB in such manner to keep them spaced. A printed circuit is obtained on the internal side of the first PCB. At least one LED is mounted on a pad of the printed circuit, in such manner that light emitted by the LED is subject to multiple reflections between the metal layers of the first PCB and second PCB and reflected light comes out of the gap, illuminating the surrounding space."

Link to original patent

Avina Silva Luis Gerardo Files Korean Patent Application for High-Power LED Luminaire Having a Modular, Expandable Mechanism

US Patent, Avina Silva Luis Gerardo

Avina Silva Luis Gerardo has filed a patent application for high-power LED luminaire having a modular, expandable mechanism. This invention was developed by Avina Silva Luis Gerardo.

The abstract released by U.S. Patent and Trademark Office states, "The invention relates to a high-power LED luminaire for public lighting. The use of individual diffusers for each LED makes it possible to obtain a light pattern similar to the I/SI type, which is ideal for public lighting. Every PCBA, which is supplied by a power controller, can be exchanged individually by means of a simple method that only requires removing the bottom lid of the luminaire, attachment means and a cover having built-in diffusers. Once said components have been removed, the PCBA can be unscrewed from the base thereof in order to be replaced. The top casing comprises outer and inner projections which improve the temperature exchange with the environment, reducing the operating temperature of the LEDs. The bottom lid has at least one groove that allows air to circulate, also reducing the operating temperature of the LEDs."

Link to original patent

U.S. Patent and Trademark Office Releases Chiu Han-Hui and Huang Kuo-Lun's Patent Application for Switch Structure and Method of Charging and Discharing Scan Lines of an LED Display

US Patent, Chiu Han-Hui and Huang Kuo-Lun

U.S. Patent and Trademark Office has released Chiu Han-Hui and Huang Kuo-Lun's patent application for switch structure and method of charging and discharing scan lines of an LED display. This invention was developed by Chiu Han-Hui and Huang Kuo-Lun.

The abstract released by U.S. Patent and Trademark Office states, “A method to eliminate caterpillar phenomenon in a scanning LED display is disclosed, wherein each scan line comprises a USW(N) for charging the scan line(N) and a DSW(N) for discharging the scan line(N), the method comprising: turning on the USW(N) to charge the scan line(N) for a first time interval; turning on the DSW(N) to discharge the scan line(N) for a second pre-determined time interval; and turning off the DSW(N) after the second pre-determined time interval is elapsed.”

Link to original patent

U.S. Patent and Trademark Office Receives Lumenpulse Lightening Inc’s Patent Application for Powerline Communication Control of Light Emitting Diode (LED) Lighting Fixtures

US Patent, Lumenpulse Lightening Inc

U.S. Patent and Trademark Office has received Lumenpulse Lightening Inc's patent application for powerline communication control of light emitting diode (LED) lighting fixtures. Campbell Gregory developed the invention.

The abstract released by U.S. Patent and Trademark Office states, “A powerline communication control system for controlling a lighting unit, such as an LED lighting unit, including a master controller for receiving lighting unit control inputs from a lighting controller and generating corresponding lighting unit command outputs in a lighting system command format and transmission mode and superimposing the lighting unit command outputs onto the power distribution system and at least one lighting slave unit for receiving the lighting command signal, separating the lighting command signal from the power signal and for providing lighting unit control commands to the at least one lighting unit to control illumination thereof.”

Link to original patent

Switch Bulb Company Inc Applies for Patent on Constant Power LED Circuit

US Patent, Switch Bulb Company Inc

Switch Bulb Company Inc has applied for U.S. Patent patent for constant power LED circuit. Lenk Ronald J developed it.

The abstract released by U.S. Patent and Trademark Office states, “A constant power drive for light emitting diodes, such that there is automatic compensation for variation in forward voltage of the LED,

both in a single unit with temperature, and also due to unit-to-unit variations..″

Link to original patent

Sichuan Sunfor Light Co Ltd Submits Patent Application for White LED Light Emitting Device Driven Directly by Constant Alternating Current

US Patent, Sichuan Sunfor Light Co Ltd

Sichuan Sunfor Light Co Ltd has submitted a patent application for white LED light emitting device driven directly by constant alternating current. Li Dongming, Yang Mian, Feng Zhengyong, Long Wentao, Zhao Kun and Zhang Ming developed the invention.

The abstract released by U.S. Patent and Trademark Office states, “The present invention discloses a white LED light emitting device driven directly by constant current in manner of being supplied with alternating current. N parallel branches, consisting of LED modules and constant current units which are in series connection with the LED modules, are connected to an output terminal of a rectification circuit, and by setting the current value, the turning-off voltage, and the turning-on voltage of the constant current unit of each branch, the periodic flickers generated due to changes in the voltage of the alternating current can be avoided. Because the current of each branch is constant, the changes in junction temperatures do not result in the current changing in LED, and the reliability is improved. Along with the increase of the number of the branches, the driving current waveform approximates a sine wave, and the power factor and the efficiency of the light emitting device are improved.”

Link to original patent

U.S. Patent and Trademark Office Publishes Adams Stephen P and Rhodes James's Patent Application for LED Device with Power Removal Detection and Method for Using the Same

US Patent, Adams Stephen P and Rhodes James

U.S. Patent and Trademark Office has published Adams Stephen P and Rhodes James's patent application for LED device with power removal detection and method for using the same. The invention was developed by Adams Stephen P. and Rhodes James.

The abstract released by U.S. Patent and Trademark Office states, “An LED lamp is placed in service on an automotive vehicle to enhance nighttime visual ability or anywhere where increased lighting is needed. The LED lamp utilizes a multi-stage power and control design, where the LED drive current is managed by an LED constant current controller that is coupled to a microprocessor that commands the intensity value of an LED array. The microprocessor manages the light intensity of the LED array using well known pulse-width modulation control methods. The microprocessor measures the voltage of the DC power source and to detect when DC power is removed. Once this detection has occurred, the microprocessor signals the LED current controller to change the current operational mode being delivered to the LED array to the next available operational mode, or alternatively, to the next appropriate operational mode to be used as determined by software stored within the microprocessor.”

Link to original patent

Shi Jie Submits Patent Application for LED Lamp Panel Structure

Shi Jie Submits Patent Application for LED Lamp Panel Structure

WIPO Patent, Shi Jie

Shi Jie has submitted a patent application for LED lamp panel structure. Shi Jie developed the invention.

According to the abstract released by the World Intellectual Property Organization: “Disclosed is an LED lamp panel structure, comprising a lamp panel , an LED light source assembly , an LED drive power supply , and also a sealing cover , a wire sealing plug , and a waterproof and breathable film . The inside of the lamp panel is groove-shaped, and the LED light source assembly and the LED drive power supply are installed inside the lamp panel ; a first wire-penetrating hole is arranged in the lamp panel ; the sealing cover is in the shape of a box and is fixedly installed at the first wire-penetrating hole of the lamp panel , the sealing cover being in communication with the lamp panel via the first wire-penetrating hole ; a second wire-penetrating hole is arranged in the sealing cover ; the wire sealing plug is installed in the second wire-penetrating hole , and leads of the LEDs pass through the wire sealing plug and the second wire-penetrating hole , the second wire-penetrating hole being sealed by the wire sealing plug ; and a through-hole is further provided in the sealing cover , the waterproof and breathable film being arranged at the through-hole . The LED lamp panel structure has good sealing performance, dustproof and waterproof properties, and low cost.”

Link to original patent

World Intellectual Property Organization Publishes Anderson Deloren E's Patent Application for LED Light Bulb

WIPO Patent, Anderson Deloren E

World Intellectual Property Organization has published Anderson Deloren E's patent application for LED light bulb. The invention was developed by Anderson Deloren E.

According to the abstract released by the World Intellectual Property Organization: “A light bulb includes an Edison style base, light emitting diode circuitry coupled to the base, a bulb sealed about the base and extending above the base, an elongated filament substrate supported by the base and extending into the bulb above the base, a light emitting diode channel supported by the filament substrate, coupled to the light emitting diode circuitry, and extending into the bulb above the base, and an inert gas disposed within the bulb.”

Link to original patent

Zhao Yijun Seeks Patent for LED Lamp Core and LED Bulb Lamp Comprising Same

WIPO Patent, Zhao Yijun

Zhao Yijun has sought patent for LED lamp core and LED bulb lamp comprising same. This invention was developed by Zhao Yijun.

According to the abstract released by the World Intellectual Property Organization: “An LED bulb lamp comprises a lampshade , a lamp holder , an LED lamp core , one or more light emitting modules , and an LED driving power supply . The lamp holder is combined with the lampshade to form a hollow cavity. The LED lamp core comprises a heat dissipation housing . The heat dissipation housing is manufactured by using a ceramic material or a heat insulation high-polymer composite material and is fixed at a combined portion of the lampshade and the lamp holder . A through hole is formed on a top of the heat dissipation housing or a region close to the top or a region far away from the top. Each light emitting module comprises a base plate and an LED unit formed on the base plate . The base plate is disposed on the top of the heat dissipation housing and/or the region close to the top, so that a heat gradient is formed between the top of the heat dissipation housing and the region far away from the top. The LED driving power supply is located inside the heat dissipation housing or inside the lamp holder and is electrically connected to the light emitting module.”

Link to original patent

Lau Chun To Files Korean Patent Application for Power up Restrike for LED Dimmer

WIPO Patent, Lau Chun To

Lau Chun To has filed a patent application for power up restrike for LED dimmer. This invention was developed by Lau Chun To.

According to the abstract released by the World Intellectual Property Organization: “In the LED Lighting Industry, it is generally accepted that after the LEDs are dimmed each with an external phase dimmer to low output at a level below a certain limit, they cannot be powered on again when the alternate current (AC) power applies to them at any level or even at the same level at which the last operation of the LEDs was maintained. Depending on the peculiar characteristic of LED string, delivery of the power to the LEDs at the power-up time must exceed a switching-on threshold in order to cause them to be powered on even after they are set to a very low output level and switched off at their last operations. By this invention, a mechanism is built into phase dimmers to maintain that the LEDs can always be turned on regardless of whatever power.”

Link to original patent

World Intellectual Property Organization Releases Hangzhou Hpwinner Opto Corporation's Patent Application for LED Module and Manufacturing Process Thereof

WIPO Patent, Hangzhou Hpwinner Opto Corporation

World Intellectual Property Organization has released Hangzhou Hpwinner Opto Corporation's patent application for LED module and manufacturing process thereof. This invention was developed by Chen Kai and Huang Jianming.

According to the abstract released by the World Intellectual Property Organization: “The present invention relates to the technical field of illumination lamps. Provided are an LED module and manufacturing process thereof, the LED module comprising a lens group , an LED luminous body , a circuit board and a heat sink ; the LED luminous body comprises an LED chip and a heat sink support ; the LED chip is attached to the heat sink support ; the heat sink support is disposed on the circuit board via surface

mount technology; the lens group covers the heat sink , and is located above the LED chip ; and a closed space formed by the lens group and the heat sink is filled with encapsulant, the encapsulant being injected into the closed space via an injecting process. Compared with the prior art, in the LED module, the encapsulant replaces the original air medium in the process of transmitting the light emitted by the LED chip , and the refractive index of the encapsulant matches the lens in the lens group , thus maximizing light emission, and increasing luminosity by 10-15% compared with the prior art."

Link to original patent

World Intellectual Property Organization Receives Cree Inc's Patent Application for LED Having Group III Nitride Surface Features

WIPO Patent, Cree Inc

World Intellectual Property Organization has received Cree Inc's patent application for LED having group III nitride surface features. Donofrio Matthew developed the invention.

According to the abstract released by the World Intellectual Property Organization: "An LED includes a mesa having a Group III Nitride mesa face and a mesa sidewall, on an underlying LED structure. The mesa face includes Group III Nitride surface features having tops that are defined by mask features, having bottoms, and having sides that extend along crystal planes of the Group III Nitride. The mask features may include a two-dimensional array of dots that are spaced apart from one another. Related fabrication methods are also disclosed."

Link to original patent

Zentrum Mikroelektronik Dresden AG Applies for Patent on Assembly and a Method for Activating LEDs

WIPO Patent, Zentrum Mikroelektronik Dresden AG

Zentrum Mikroelektronik Dresden AG has applied for World Intellectual Property Organization patent for assembly and a method for activating LEDs. Müsch Erhard developed it.

According to the abstract released by the World Intellectual Property Organization: "The invention relates to an assembly and a method for activating LEDs. The problem addressed by the invention is that of specifying an assembly and a method by means of which LED lamps can be activated without flicker and in a dimmable manner, and the required circuitry complexity is reduced. Said problem is solved by the assembly in that the LED driver contains an active dampening unit, which provides an additional and activatable path for an additional current flow in the LED driver. The problem is solved by the method in that a path for an additional current flow in the LED driver is provided, which is connected after an occurrence of a switching edge in the phase control dimmer for a specified duration of time and a prevents a deactivation of a switch (triac) in the phase control dimmer by a thus increased current flow in the LED driver."

Link to original patent

Xiamen Sanan Optoelectronics Technology Co Ltd Submits Patent Application for Integrated LED

Light-Emitting Component and Manufacturing Method Therefor

WIPO Patent, Xiamen Sanan Optoelectronics Technology Co Ltd

Xiamen Sanan Optoelectronics Technology Co Ltd has submitted a patent application for integrated LED light-emitting component and manufacturing method therefor. Huang Shaohua, Zeng Xiaoqiang and Chao Chih-wei developed the invention.

According to the abstract released by the World Intellectual Property Organization: “An integrated LED light-emitting component and a manufacturing method therefor. The integrated LED light-emitting component comprises: at least two or more LED light-emitting epitaxial units that are separated from each other and comprise upper and lower surfaces, where the upper surface is a light-beaming surface; and, an electrode pad layer that is formed at the lower surface of the LED light-emitting epitaxial units , that is provided with a sufficient thickness to support the LED epitaxial units and to connect to each of the LED epitaxial units , and that forms a planar coupling circuit without drop, where the electrode pad layer is divided into P and N electrode areas. The LED light-emitting epitaxial units constitute serial-connected, parallel-connected or serial/parallel-connected circuits. This improves the problem of poor packaging and welding, electrode light shielding, and connection stability.”

Link to original patent

World Intellectual Property Organization Publishes AAG Stucchi SRL's Patent Application for Adapter for LED Modules of the Package/Array Type

WIPO Patent, AAG Stucchi SRL

World Intellectual Property Organization has published AAG Stucchi SRL's patent application for adapter for LED modules of the package/array type. The invention was developed by Stucchi Antonietta.

According to the abstract released by the World Intellectual Property Organization: “An adapter for LED modules of the package/array type, comprising an adapter body that is provided with a cavity adapted to accommodate an LED module of the package/array type and is associable with a heat sink; a heat dissipation interface element can be inserted between the LED module and the heat sink; the adapter comprising means for retaining the LED module which are adapted to engage the face of the LED module that is directed toward the heat sink, in order to retain the LED module within the cavity .”

Link to original patent

KMW Inc Seeks Patent for LED Lighting Device Which is Rotatable and Tiltable

WIPO Patent, KMW Inc

KMW Inc has sought patent for LED lighting device which is rotatable and tiltable. This invention was developed by Kang Byung-Ju, Yoo Seung-Bum, Yoo Chan-Kyu, Roh Ki-Seong and Kim Young-Jun.

According to the abstract released by the World Intellectual Property Organization: “The present invention relates to an LED lighting device which is rotatable and tiltable, the LED lighting device comprising: a body unit; a rotatable unit which is coupled to the body unit and is rotatable in a direction parallel to a coupling surface of the body unit, to which the rotatable unit is coupled; an electric power connection unit for connecting electric power between the body unit and the rotatable unit, and supplying electric power by contact between electrodes regardless of the degree of rotation of the rotatable unit. The LED lighting device of the present invention can freely rotate and tilt a lighting module by using the electric power connection unit which can stably supply electric power even in a rotation state of the lighting module without using electric wires when each of multiple lighting modules is coupled to the body unit, thereby easily adjusting light distribution.”

Link to original patent

Sharp Kabushiki Kaisha Files Korean Patent Application for Light Source Substrate, Display Apparatus, and Light Source Substrate Inspection Method

WIPO Patent, Sharp Kabushiki Kaisha

Sharp Kabushiki Kaisha has filed a patent application for light source substrate, display apparatus, and light source substrate inspection method. This invention was developed by Kazikawa Yosuke.

According to the abstract released by the World Intellectual Property Organization: “An LED substrate (light source substrate) is provided with: a substrate section ; a plurality of LEDs (light sources) mounted on the substrate section ; a power supply wiring section , which is disposed on the substrate section , and which is capable of supplying power to the LEDs by connecting the LEDs in series; and an inspection wiring section , which is disposed on the substrate section , and which is connected to a power supply wiring section portion that connects together LEDs adjacent to each other, said LEDs being included in the LEDs .”

Link to original patent

World Intellectual Property Organization Releases Terralux Inc and McDougle Anthony N's Patent Application for Secondary-Side Sensing of Phase-Dimming Signal

WIPO Patent, Terralux Inc and McDougle Anthony N

World Intellectual Property Organization has released Terralux Inc and McDougle Anthony N's patent application for secondary-side sensing of phase-dimming signal. This invention was developed by McDougle Anthony N.

According to the abstract released by the World Intellectual Property Organization: “Current is regulated in an LED lamp by sensing, in a manner electrically isolated from a primary side of a transformer, an LED current in an LED; creating a digital control signal based on the LED current; transmitting the digital control signal from the secondary side of the LED circuit to the primary side; and controlling power delivered to the primary side based at least in part on the transmitted digital control signal.”

Link to original patent

World Intellectual Property Organization Receives Shenzhen China Star Optoelectronics Technology Co Ltd's Patent Application for LED Backlight Driving Circuit, Backlight Module, and Liquid Crystal Display Apparatus

WIPO Patent, Shenzhen China Star Optoelectronics Technology Co Ltd

World Intellectual Property Organization has received Shenzhen China Star Optoelectronics Technology Co Ltd's patent application for LED backlight driving circuit, backlight module, and liquid crystal display apparatus. Zhang Hua developed the invention.

According to the abstract released by the World Intellectual Property Organization: “An LED backlight driving circuit , a backlight module, and a liquid crystal display apparatus. The backlight driving circuit comprises a rectification module directly connected to a mains power supply, a step-down module coupled to the rectification module and using PWM control, and an LED light bar coupled to the step-down module.”

Link to original patent

Koninklijke Philips NV Applies for Patent on Chip Scale Light Emitting Device Package with Dome

WIPO Patent, Koninklijke Philips NV

Koninklijke Philips NV has applied for World Intellectual Property Organization patent for chip scale light emitting device package with dome. Akram Salman and Bhardwaj Jyoti Kiron developed it.

According to the abstract released by the World Intellectual Property Organization: “Light Emitting Devices (LEDs) are fabricated on a wafer substrate with one or more thick metal layers that provide structural support to each LED. The streets, or lanes, between individual LEDs do not include this metal, and the wafer can be easily sliced/diced into singulated self-supporting LEDs. Because these devices are self-supporting, a separate support submount is not required. Before singulation, further processes may be applied at the wafer-level; after singulation, these self-supporting LEDs may be picked and placed upon an intermediate substrate for further processing as required. In an embodiment of this invention, protective optical domes are formed over the light emitting devices at the wafer-level or while the light emitting devices are situated on the intermediate substrate.”

Link to original patent

With Regards
Team Global IP News