

# Delta Electronics LED Lighting Patent Portfolio

16 Patent Families  
Contact: Gustavo Array at [gustavo@rzv-ip.com](mailto:gustavo@rzv-ip.com)

**Disclaimer:** These materials comprise an offer for sale of patents by the owners. They are not intended to and shall not be interpreted as an offer or a request for a patent license. The information is provided solely for the purpose of assisting the independent evaluation of the portfolio by prospective buyers. Nothing in this document shall constitute or be interpreted as legal analysis regarding the scope of the patents or other intellectual property rights. Any discussion of the use or potential use of the patent portfolio is for illustrative purposes only. In making a decision regarding this sales opportunity, potential purchasers must rely on their own examination and evaluation of the patents and portfolios including the merits and risks involved. No representations or warranties regarding the patents or portfolios are provided or implied. These materials and any other documents or information provided related to the patents or portfolios are intended for use by the receiving party solely for its use in engaging in the sales process and in determining whether to purchase the patents or portfolios. The seller reserves the right to modify or discontinue the sales process at any time including accepting offers prior to the completion of the due diligence period. The information provided herein or exchanged pursuant to the sales process is not intended to be notice or accusation of infringement of any of the patents or portfolios offered for sale, and shall not be used as proof of pre-litigation notice to or knowledge by the prospective buyer of the existence of potential infringement of any patents or portfolios offered for sale herein.

# Executive Summary

- RZV has been exclusively retained by Delta Electronics to monetize a high-value LED lighting patent portfolio.
- Delta Electronics is a global leader in power and thermal management, providing high-efficiency solutions for IT infrastructure, electric vehicles, and industrial applications, and, through its subsidiaries, technologies for smart buildings, intelligent video surveillance, and healthcare.
- The protected inventions span mechanical, electrical, thermal, and optical aspects of LED lighting, including rugged modular luminaires, thermally efficient LED chips and packages, streamlined high-efficiency drivers and converters, and optical/assembly structures (light tunnels, coupling and integration modules, tunable-CCT and wide-angle LED modules) that support reliable, uniform, and manufacturable LED lighting solutions.

**Granted Patents:**

16 US, 3 TW,  
1 CN and 1 JP

**Encumbrances &  
EOU Information:**

Available under  
NDA

**Price Expectations:**

Consistent with  
current market

**Deal Structure:**

We will consider all  
proposals

**Deadlines:**

Offers considered  
in the order  
received

# Portfolio (US Granted Patents)

INPADOC Family	Patent Number	Delta Number	Priority Date	Estimated Expiry	Title
448870057	US8858024B2	20110237-US	2012-02-01	2033-04-10	Illuminating apparatus and illuminating module
443354192	US8882304B2	14909-CP/US	2009-06-23	2031-08-04	Illuminating device and packaging method thereof
448041961	US8794802B2	20110075-US	2011-10-11	2032-09-11	Waterproof apparatus for outdoor lighting with electronic device sealed in cavity of an aluminum extrusion
438647510	US7768028B2	22205-CP/US	2006-04-28	2027-10-23	Light emitting apparatus
440252339	US8048696B2	15407-CP/US	2007-07-10	2029-03-15	Light emitting diode devices and manufacturing method thereof
440672230	US8382330B2	04008-CP/US	2008-03-28	2029-09-05	Illuminating device and heat-dissipating structure thereof
440752029	US7816703B2	23307-CP/US	2007-12-14	2028-12-14	Light-emitting diode device and manufacturing method thereof
441200972	US7985002B2	02708-CP/US	2008-04-18	2029-03-13	Illuminant device and manufacturing method thereof
445466428	US8508154B2	02210-PS/US	2010-07-16	2032-02-13	Lighting devices
445593354	US8461603B2	25910-CP/US	2010-08-19	2031-04-29	Lamp module
447752606	US8791638B2	20110076-US	2011-09-02	2033-01-25	LED lighting system
449211628	US8764221B2	29410-CP/US	2012-03-20	2033-01-12	Lamp module and connection mechanism thereof
449580763	US8917033B2	20120038-US	2012-05-21	2033-04-03	Open circuit protecting circuit, open circuit protecting method and illuminating apparatus
453521239	US10222611B2	20140008-US	2014-01-16	2036-05-26	Light integration module and optical system employing same
457684499	US10165645B2	201510055-US-CA	2015-07-02	2036-06-21	LED lighting module having tunable correlated color temperature and control method thereof
462906181	US10473279B2	201610185-US	2017-01-25	2037-04-30	Wide-angle linear LED lighting device

# Key Assets

# US 7,768,028 B2, Claim 1

Title:	Light emitting apparatus
Priority Date:	28 April 2006
Est. Expiry:	23 October 2027
Independent Claims	1
Abstract	A light emitting apparatus includes a substrate, a first metal layer, an insulating layer and at least one light emitting device. The first metal layer is disposed on the substrate. The insulating layer is disposed on the first metal layer. The light emitting device is disposed on the insulating layer.

1. A light emitting apparatus comprising:  
a substrate;  
  
a first metal layer directly disposed on the substrate;  
  
an insulating layer disposed on the first metal layer;  
  
at least one light emitting device disposed on and in direct contact with the insulating layer; and  
  
a second metal layer disposed on the insulating layer, and electrically connected with the light emitting device through at least one wire by wire bonding, an electrical conductive adhesive or welding.

# US 8,882,304 B2, Claim 1

Title:	lluminating device and packaging method thereof
Priority Date:	23 June 2009
Est. Expiry:	4 August 2031
Independent Claims	1, 21
Abstract	An illuminating device includes a substrate, an illuminating element, at least one barricade and at least one cover layer. The illuminating element is disposed on the substrate. The barricade is protruded from a surface of the substrate and disposed around the illuminating element continuously or discontinuously to form a first accommodating area. The cover layer is disposed in the first accommodating area for covering the illuminating element.

1. An illuminating device, comprising:
- a substrate;
- an illuminating element disposed on the substrate;
- a first barricade protruded from a surface of the substrate, wherein the first barricade is disposed around the illuminating element to define a first accommodating area;
- at least one second barricade disposed around the first barricade continuously or discontinuously to define a second accommodating area between the first barricade and the second barricade; and
- at least one cover layer, comprising a gel layer, wherein the gel layer is only disposed in the first accommodating area for covering the illuminating element.

# US 8,858,024 B2, Claim 1

Title:	Illuminating apparatus and illuminating module
Priority Date:	1 February 2012
Est. Expiry:	10 April 2033
Independent Claims	1, 11
Abstract	An illuminating module includes a cover body, a plurality of lens elements, a flexible element and a light-emitting component. The cover body has a plurality of first through holes. The lens elements are opposite to the first through holes, respectively, and the size of each lens element is made compatible with the size of each first through hole. The lens elements are disposed between the flexible element and the cover body. The light-emitting component has a circuit board and a plurality of light emitting diodes. The light emitting diodes are disposed on the circuit board and opposite to the lens elements, respectively. The lights emitted from the light emitting diodes are outputted through the lens elements respectively.

1. An illuminating module, comprising:
- a cover body having a plurality of first through holes;
  - a plurality of lens elements disposed opposite to the first through holes, respectively, and the size of each of the lens elements is made compatible with the size of the corresponding first through hole;
  - a flexible element, wherein the lens elements are disposed between the flexible element and the cover body; and
  - a light-emitting component having a circuit board and a plurality of light emitting diodes, wherein the light emitting diodes are disposed on the circuit board and opposite to the lens elements, respectively, and the lights emitted from the light emitting diodes are outputted through the lens elements respectively.

# US 8,794,802 B2, Claim 1

Title:	Waterproof apparatus for outdoor lighting with electronic device sealed in cavity of an aluminum extrusion
Priority Date:	11 October 2011
Est. Expiry:	11 September 2032
Independent Claims	1
Abstract	A waterproof apparatus includes a housing, two first covers, an electronic device and two first waterproof elements. The housing is manufactured by aluminum extrusion and configured with a cavity. The first covers are disposed in the cavity. The electronic device is disposed between the first covers in the cavity. The first waterproof elements are located at one side of one first cover, which is opposite to the other first cover.

1. A waterproof apparatus for outdoor lighting, the waterproof apparatus comprising:

a housing manufactured by aluminum extrusion and configured with a cavity, wherein the cavity has two first openings;

two first covers, wherein the first covers are accommodated inside the cavity and have a distance to the first openings;

an electronic device disposed between the two first covers and accommodated in the cavity of the housing; and

two first waterproof elements, wherein each of the first waterproof elements is located at one side of one of the first covers facing to the other first cover.



**Thanks!**

Contact: [gustavo@rzv-ip.com](mailto:gustavo@rzv-ip.com)