


Expansion of the product lineup of LEDs for lighting ‘COB Series’:

“the world’s first class LED providing high luminous flux of 23,549 lm”

- for applications from projectors and streetlights requiring high luminous flux -

Citizen Electronics Co., Ltd. (Head Office: Fujiyoshida City, Yamanashi Prefecture. President: Yoshihiro Gohta) has developed the world’s first class LED providing high luminous flux of 23,549 lm as new products of LEDs for lighting, ‘COB *1 Series.’

These products will be exhibited during the ‘Hong Kong International Lighting Fair 2013’ from October 27, 2013.

<p>LEDs for lighting, ‘COB Series’</p> <p>Package providing high luminous flux</p> <ul style="list-style-type: none">■ Developed products: 2 models ‘CLL052-1825B1-50KL1A1’ ‘CLL052-1825B1-503M1A2’■ Mass production is scheduled to start in December 2013	 <p>CITILED The Light Engine</p>
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■ Background of development

Recently, LED lighting has been spreading in general lighting, as there are social demands for acceleration and promotion of energy conservation and eco-friendly activities. LEDs are required for applications requiring high luminous flux such as projectors and streetlights in which mercury lamps and HID lamps have been incorporated conventionally.

The newly developed products have achieved higher efficacy and higher luminous flux through reselection of dice and materials.

■ Main features

1. Only one package has achieved the world’s first-class luminous flux of 23,549 lm

It is possible to select an LED focusing on luminous efficacy or luminous flux that meets customers’ needs by adjusting drive conditions. The new product has achieved the world’s first-class luminous flux of 23,549 lm (Ra 65 typ., Tc=25°C) when it is driven at the maximum wattage, which is equivalent to that of a 400W class mercury lamp (luminous flux of the current model is 17,675 lm). This product can reduce the quantity of LED packages to be incorporated and contribute to the miniaturization of lights.

2. Luminous flux has been improved by 29 % over that of the current model

Luminous flux and luminous efficacy has been improved by 29 % and 34 % respectively over those of the current model through enhancement of light extraction efficiency by reselection and optimization of materials. The new products have achieved both high luminous flux and high luminous efficacy.

* Comparison of the two models below made when they light up with the same conditions (5000K, Ra 65 typ., Tc=25°C)

	Luminous flux	Luminous efficacy	(Product code)
New product:	12,750 lm	161 lm/W	(CLL052-1825B1-50KL1A1)
Current model:	9,890 lm	120 lm/W	(CLL050-1825A1-50KL1A1)
	[29 % up]	[34 % up]	

3. A high heat dissipation structure has been adopted

We have adopted Chip on Aluminum technique (patented by our company), which is a high-heat dissipation technique where LED dice are directly mounted on an aluminum board.

■ Specifications

(Tc=25°C)

Product code	CLL052-1825B1-50KL1A1	CLL052-1825B1-503M1A2
Size (mm)	38.0×38.0×1.4	38.0×38.0×1.4
Power (W)	79.1	79.1
Total luminous flux (lm)	12,750	10,990
Luminous efficacy (lm/W)	161	139
General color rendering index, Ra	65 typ.	80 min. (3-Step MacAdam ellipses *2)
Color temperature (K)	5000	
Product type	2 models	
Shipment of samples will start in	November 2013	
Mass production will start in	December 2013	

*1 COB: stands for Chip on Board and is a structure where LED dice are directly mounted on a board.

*2 3-Step MacAdam ellipses: a chromaticity control standard, which is about one-ninth of the chromaticity range of ANSI C78.377 (a chromaticity control standard provided by the American National Standards Institute).



“CITILED The Light Engine” is a brand name of LEDs for lighting manufactured by CITIZEN ELECTRONICS CO., Japan.

CITILED is a registered trademark of CITIZEN ELECTRONICS CO., Japan.

Information provided on this press release is accurate at the time of announcement.

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