

November 19, 2014

PRESS RELEASE

KOITO MANUFACTURING CO., LTD.

KOITO to Release the World's First Single-LED, Bi-Functional Projector Headlamp

KOITO MANUFACTURING CO., LTD. ("KOITO") (Head Office: Minato-ku, Tokyo; President: Masahiro Otake) announces that it has developed and started mass-producing the world's first single-LED, bi-functional projector headlamp capable of switching the high (driving) beam and low (passing) beam on a single LED.

Featuring such advantages as quick turn-on, very visible white glow, long-life, and low power consumption, LED headlamps are an extremely safe and environmentally-friendly light source. To enable this lamp technology to be used in an expanded variety of motor vehicles, KOITO has developed a single-LED, bi-functional projector (LED unit).

So far, the high beam and low beam functions of LED headlamps have been realized using separate LED units (i.e., two LED units). Performing the two functions with a single LED, our newly-developed product presents revolutionized optical systems, incorporating the high beam and low beam functions in a much compacter single LED unit.

This LED unit is also power efficient and the world's most compact and lightest in its kind, thus boosting the fuel efficiency of motor vehicles, while enabling headlamps to be designed to meet diversifying vehicle styling needs.

This LED unit comprises of a newly-developed high luminous flux LED that is 1.6 times brighter than conventional LEDs (2,250 lm) and a micro lighting circuit (an LED driver module 70% smaller than conventional ones (about 46 cm²)) along with an electric fan and a heat sink for enhanced cooling performance. It is 70% smaller (2,700 cm³) and 60% lighter (about 1,300 g/vehicle) compared to conventional LED units. Furthermore, power consumption is about 25% (20 W/vehicle) down compared to two LED units.

KOITO will promote this newly-developed, single-LED, bi-functional projector as its standard LED unit. Starting with delivery for the Toyota Motor Corporation Prius α model (in the market in November 2014*), KOITO will roll out the product worldwide.

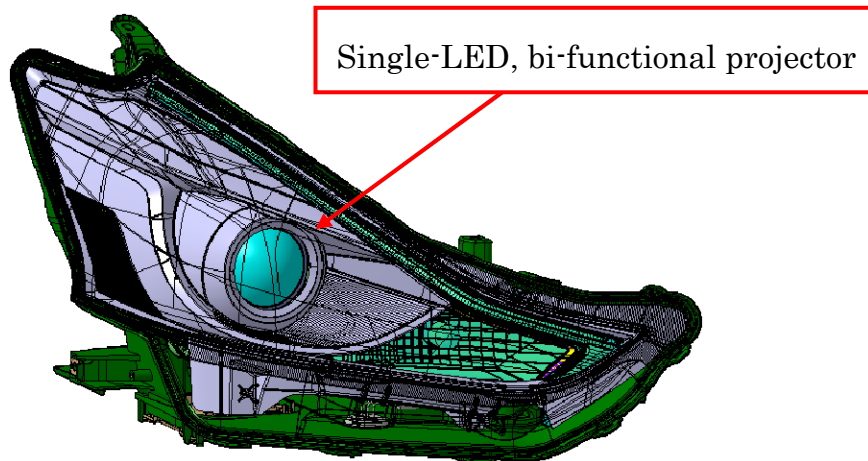
Always seeking cutting-edge technologies, KOITO is committed to developing products tailored to customers' needs and contributing to improving the safety and comfort of the automobile society.

*This single-LED, bi-functional projector headlamp is referred to as "Bi-beam LED headlamps" at Toyota Motor Corporation

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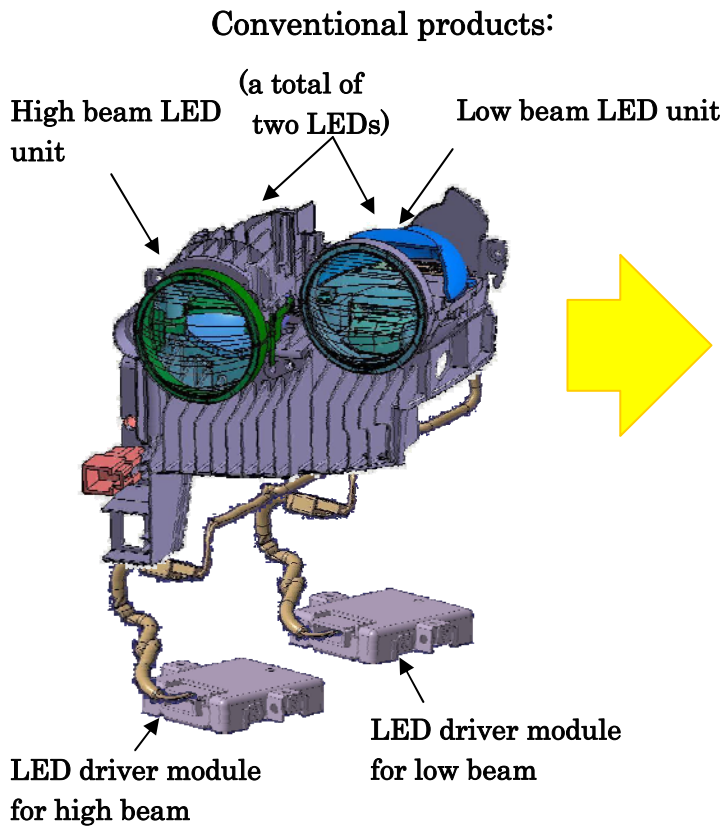
(Reference)

* Toyota Prius α model with the single-LED, bi-functional projectors



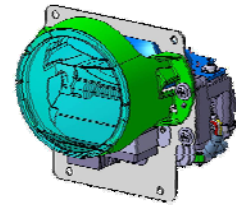
Single-LED, bi-functional projector

* Comparison with conventional headlamps



Newly-developed product:

Single-LED, bi-functional projector



Comparison with conventional products

| | |
|-------------------|------------|
| Power consumption | : 25% less |
| Size | : 70% less |
| Weight | : 60% less |

* Single-LED, bi-functional projector: Structure

