

DOWA Has Developed Short-Wavelength-Infrared LEDs with the World's Highest Output Power

DOWA ELECTRONICS MATERIALS CO., LTD. (Headquarters: 14-1 Sotokanda 4-chome, Chiyoda-ku, Tokyo; Capital: 1 billion yen; President: Koji Suzuki; hereinafter DOWA), a subsidiary of DOWA HOLDINGS CO., LTD. (Headquarters: same as above; Capital: 36.4 billion yen; President: Akira Sekiguchi), has successfully developed short-wavelength-infrared LED chips (Fig. 1) with output power that is 3.5 times higher than existing products and is the highest in the world at 6.8 mW^{*1}, with a peak wavelength of 1,300 nm. DOWA has started to deliver sample products.

LED-based optical sensors feature advantages such as a smaller size, lower power consumption and longer life time. In addition, because near and short-wavelength-infrared light with a wavelength range between 800 nm and 2,000 nm is highly penetrative to organisms, the application of short-wavelength LEDs are proceeding in fields such as agricultural and food analysis, medicine and healthcare^{*2}. In particular, in the field of healthcare, the market for which is set to expand rapidly, LED-based sensors are expected to enable to measure blood glucose level without blood drawing.

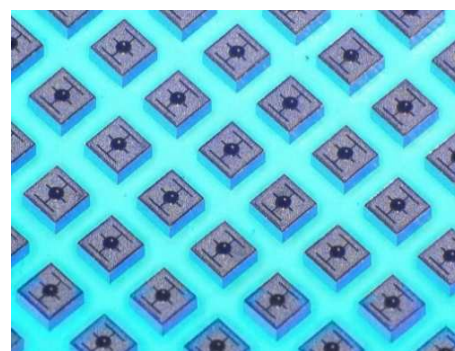


Fig.1: short-wavelength-infrared LED chips

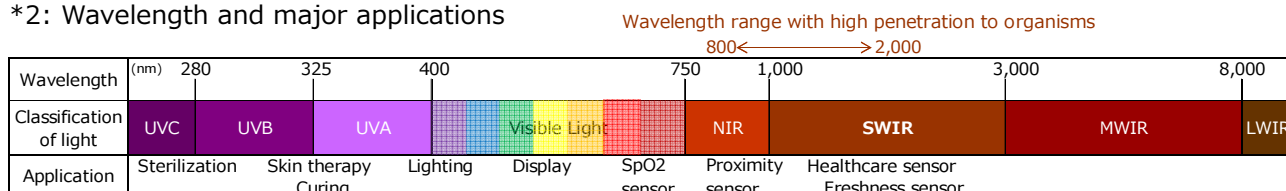
The newly developed short-wavelength-infrared LED chips can balance higher output power and a smaller chip size, which are usually a trade-off, and are significantly improved the upward optical output, which is required for sensor applications. DOWA will expand these technologies to peak wavelengths of 1,450 nm and 1,650 nm, widening the lineup.

In the field of gallium-based compound semiconductor, DOWA offers an extensive lineup of products, ranging from materials such as high-purity gallium to wafers, LED chips and some lamp modules. DOWA also has abilities to flexibly accommodate a variety of needs, such as customizing wavelengths.

DOWA will focus on enhancing the features of next-generation products and streamlining production to further expand its semiconductor business.

*1: With 350 μm square size, applying a direct current of 100 mA at room temperature

*2: Wavelength and major applications



<Contact for inquiries>

DOWA ELECTRONICS MATERIALS CO., LTD.

<http://www.dowa-electronics.co.jp/en/>