

Notification of Development on Fine-Structured Sapphire Substrate Realizing High-Output Deep UV-LED

Oji Holdings Corporation (hereafter Oji) has just developed fine-structured sapphire substrate which improves light extraction efficiency of deep UV-LED.

A world's top-class output of 90 mW was achieved by introducing the fine-structured sapphire substrate developed by Oji into the UV-LED (the center emission wavelength 310 nm) developed by DOWA Electronics Materials Co., Ltd. (hereafter DOWA Electronics) (†1).

Deep-UV light of the 310 nm band is utilized for resin curing or skin medical therapy (†2). However, both downsizing of equipment and high-output have been desired. On this occasion, by introducing the fine-structured sapphire substrate, which was originally developed by nanofabrication technology of Oji (†3), into the deep UV-LED of DOWA Electronics, downsizing of equipment compared with the conventional mercury or excimer lamps was achieved, and light extraction efficiency was improved by ca. 20% (the world's top class 90 mW) as compared with a conventional one, realizing high-output deep UV-LED.

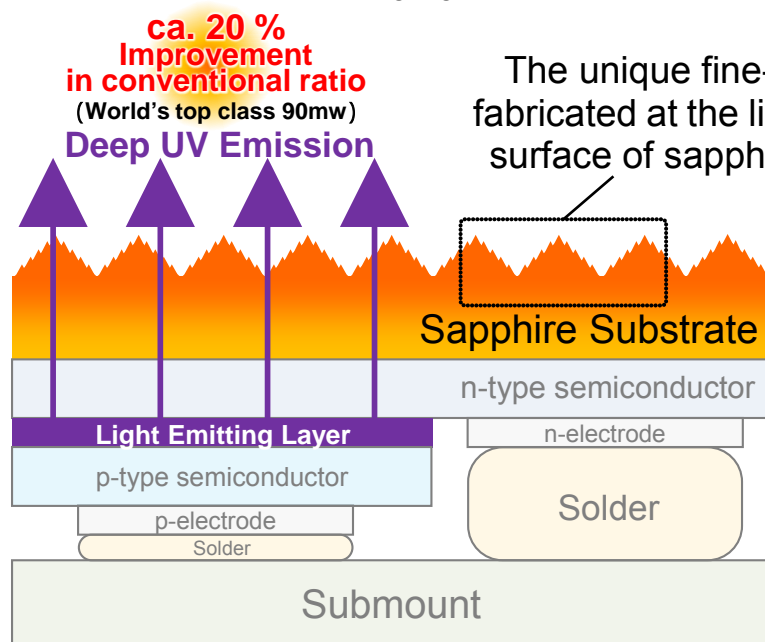


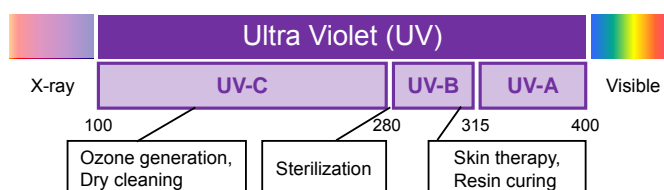
Fig. Schematic illustration of a deep UV-LED

The deep UV-LED of the 310 nm band with the unique nanostructure of Oji is scheduled to go into production at DOWA Electronics from April 2018.

†1 DOWA Electronics Materials Co., Ltd.

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Capital: 1,000 million yen / Main Business: Electronics materials and other related businesses

†2 Types of UV rays and main end-usages
(The deep UV ranges from 200 to 350 nm)



†3 Related previous press release: https://www.ojiholdings.co.jp/r_d/news/?itemid=142&dispmid=1026

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