

Ultra small UV photodiode

Realization of highly efficient UV (ultraviolet) sensor with less light attenuation due to a thinner profile without filter

Overview

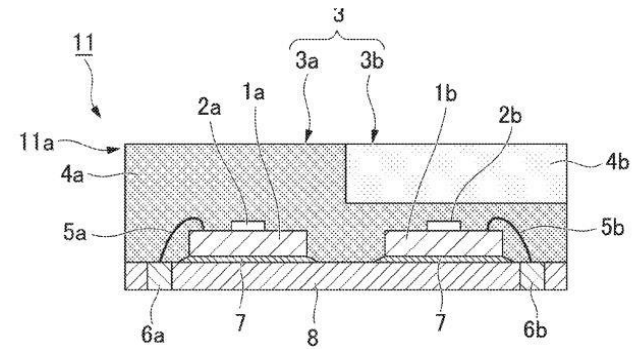
In recent years, interest in preventing sunburn and stain has been growing in the health care field. If ultraviolet ray can be easily measured using smartphone, etc., it is expected to contribute to health management and cosmetic medicine. In addition, the number of device that handle ultraviolet ray is increasing in the industrial field, so the need for measuring and sensing ultraviolet ray is growing.

This invention is able to measure from UV-A, which causes stain and wrinkles, to UV-B, which causes sunburn, by using silicon semiconductor. So far, silicon photodiode (PD) technology with **high sensitivity** in wide optical wavelength range of 190-1100 nm and **high light resistance that does not deteriorate even after long term exposure to intense ultraviolet light** has been developed. Moreover, a technology that selectively and efficiently detects optical signal in the UV region even in environment with background light including visible light and near-infrared light, has been achieved by applying this silicon PD technology to a new differential type detection method.

*Theoretically feasible for also UV-C (consultation required)

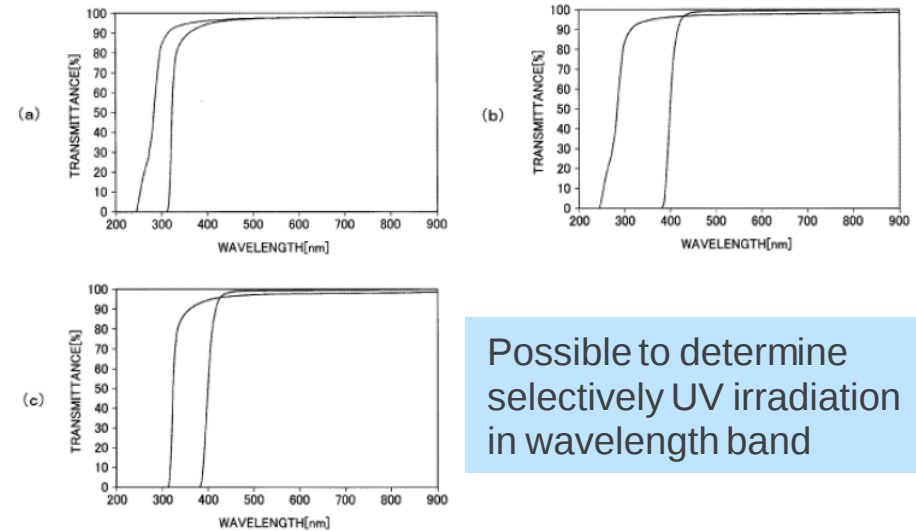
IP Data

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Cross section of silicon PD

Example



Wavelength selection by differential silicon PD (spectral characteristic)

Product Application

Semiconductor manufacturing, sterilization, medical application, air purification, UV illumination/irradiation, UV curing, 3D printer, etc.

Contact