

Title of Invention: PHOTODETECTOR ARRAY

Abstract of the Disclosure

5 There is provide a photodetector array of a stacked
film, which comprises a plurality of first electrodes
formed on a substrate and extending in parallel in a
first direction, a plurality of second electrodes
extending in parallel in a second direction crossing the
10 first electrodes, a first organic thin film diode and a
second organic thin film diode disposed between each of
the first electrodes and each of the second electrodes,
and an intermediate connection electrode layer serving as
a common anode or a common cathode. The intermediate
15 connection electrode layer connects the first organic
thin film diode and the second organic thin film diode by
backward-diode connection. At least either the first
electrodes or the second electrodes are transparent with
light passing therethrough, the first organic thin film
20 diode is a photoresponsive organic diode, and the second
organic thin film diode is an organic rectifier diode.
The intermediate connection electrode layer operates so
that, with respect to the first organic thin film diode
and the second organic thin film diode connected thereto,
25 positive holes are transferred as the common anode and
electrons are transferred as the common cathode. With
this photodetector array, a sheet-type two-dimensional

optical image scanner that has a large surface area, and is flexible and bendable, can be easily produced using an organic semiconductor material.

5 FIGURE 10