

ABSTRACT

Title of Invention

5 OBJECT DETECTION DEVICE

The object detection device includes: a pyroelectric element configured to output a current signal in response to a change in an amount of infrared light; an I/V conversion circuit including an operational amplifier, a capacitive element serving as a feedback circuit,
10 and a discharging circuit, and configured to convert the current signal to a voltage signal; an A/D conversion circuit configured to convert the voltage signal to a first digital signal; a digital filter configured to extract a detection component having a frequency included in a frequency band associated with an object from a waveform represented by the first digital signal by subjecting the first digital signal to an arithmetic processing, and create a second
15 digital signal representing a waveform of the detection component; a judgment circuit configured to detect the target based on the second digital signal; and a control unit configured to control the discharging circuit based on a period corresponding to a predetermined frequency not greater than a lower limit of the frequency band to discharge electric charges stored in the capacitive element.

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(Figure 1)