

February 2, 2021  
Nippon Ceramic Co., Ltd.

## Nippon Ceramic Co., Ltd. will start offering the samples of its brand-new digital communication PIR sensor, the D-Pyro™.

Nippon Ceramic CO., Ltd., Tottori, Japan, is delighted to announce that it will start offering the samples of **D-Pyro™** which is a digital communication passive infrared sensor (PIR sensor) required no analog circuits. The **D-Pyro™** is the perfect solution to be mounted on human motion detector for security, energy management, or surveillance camera system.

PIR sensor is essential for human motion detector for security and automatic lighting control, security camera wake-up, or energy-saving HVAC system. It converts weak infrared rays emitted from the human body into electric signals and requires large amplification and circuit design in each application to process the outputted electric signals. **D-Pyro™** achieves to incorporate all the processing circuit into TO-5 package, and enables various settings by software through the direct communications between the customer's host MCU and the sensor.



### [Product Features]

#### 1) Highly Versatile Digital Communication Method

UART or I<sup>2</sup>C communication are available and both has the function of a serial communication with the host MCU. UART type can also be used as on/off output type.

#### 2) Low-power Consumption for the Battery-powered System

Perfect for the application of the battery-powered wireless system as the current consumption in a steady-state is only 2.5μA. The range of the power supply voltage is also wide, from 1.8V to 5.5V.

#### 3) Wake-up Trigger Function

The wake-up trigger function allows the host MCU to minimize its power consumption for the energy saving of the whole system.

#### 4) Peak Hold Function

I<sup>2</sup>C type holds a ±11bit peak value between the previous and the current data reading. The host MCU will never miss the peak value both in the sleep-mode and in the normal operation. It also enables to lighten the processing load of the MCU by taking longer intervals of data read request.

#### 5) Set the Amplification Characteristics by Software

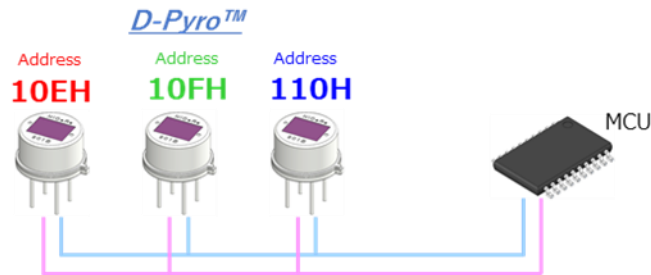
The amplification characteristics can be selected from 12 choices by setting the digital band-pass filter of the sensor by the host MCU.

## 6) Excellent EMC Performance

**D-Pyro™** has an excellent performance against the electromagnetic noises from the outside as all the processing circuit is incorporated into TO-5 package.

## 7) Set Several Sensors on the Same Bus Line

When the several motion sensors are required to be used in one system, especially for the application of wide-area surveillance or highly reliable security equipment, multiple **D-Pyro™** (I<sup>2</sup>C type) are able to be connected to the same bus line. It enables to eliminate several components and only one bus line is required as the interface of the MCU.



## 8) SMD is Available

Surface mount type is available in addition to TO-5 package type.



### [Product Characteristics]

- Ultra-low current consumption, Typical 2.5μA
- Wide power supply voltage range, 1.8V ~ 5.5V
- High S/N ratio
- Excellent EMC performance
- UART or I2C serial interface
- 12 types of selectable built-in digital bandpass filter
- Wake-up trigger output function
- Peak hold function
- Preset device address (7bit common address "0x00" / 10bit unique address)
- TO-5 through-hole type/SMD type

### [Samples/Production Schedule]

Samples: Now available

Production Schedule: Mass production will start in June, 2021

### [Company Profile]

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URL: <https://www.nicera.co.jp/>

Product Lineup: <https://www.nicera.co.jp/products/infrared-sensor/pyro-sensor>

Nippon Ceramic Co., Ltd. is the leading global provider of passive infrared sensors

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