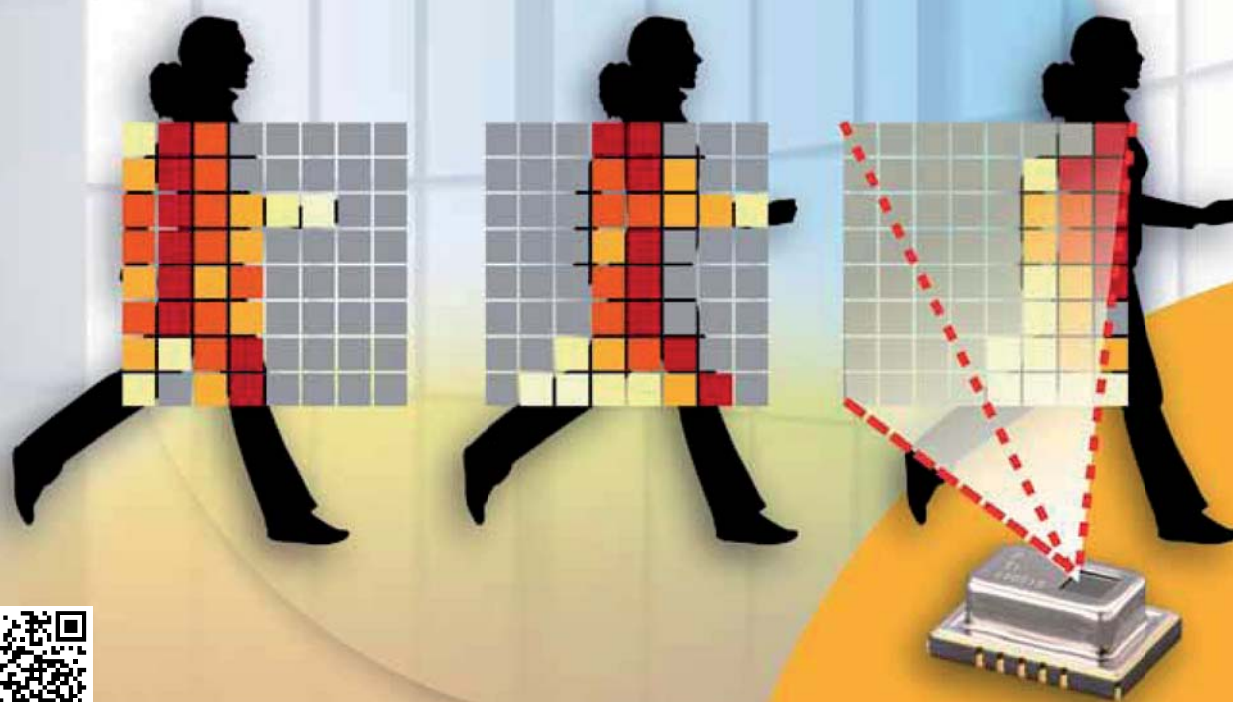


INFRARED ARRAY SENSORS GRID-EYE



Grid-EYE

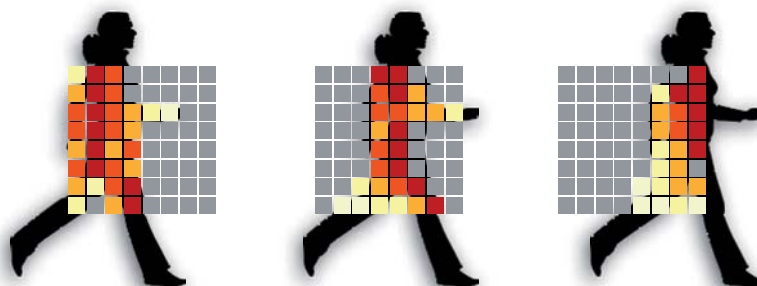
Infrared Array Sensor



Panasonic proudly presents the first-ever Surface Mount Device (SMD) thermopile array sensor, the Grid-EYE. The thermopile sensor features 64 thermopile elements in an 8 x 8 grid format. You can realize cost-effective and compact solutions for the measurement of temperatures of the entire specified area without any contact. The 64 thermopile elements yield a very accurate measurement. A built-in silicon lens provides a viewing angle of 60°. The measurement values can be read out via I²C interface in 1 or 10 frames per second. The interrupt signal output realizes a quick response to time-critical events, thus offering a high degree of flexibility.

- Digital output (I²C)
- Interrupt signal output
- SMD component (reflow compatibility)
- 8x8 (64) pixel area
- Frame rate: 10 frames/s or 1 frame/s

Through the 64 detection elements Grid-EYE, the passive infrared motion sensor for detecting radiation changes in the infrared range, can detect several objects at the same time. Grid-EYE is able to measure actual temperature and temperature gradients, providing thermal images and identifying direction of movement. Compared to single element thermopile sensors or pyroelectric detectors Grid-EYE offers immense benefits. For example a reduced maintenance effort due to early detection of excessive heat.



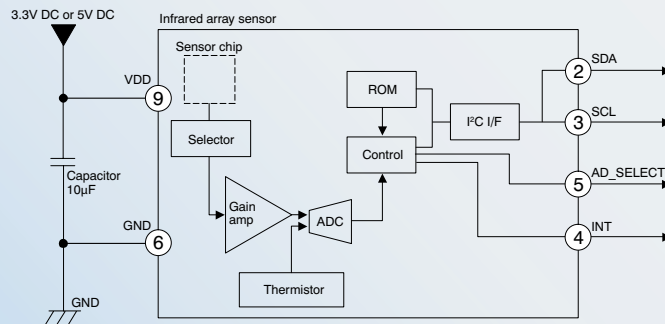
Type \ Detection	Moving object	Motionless object	Moving direction	Temperature measuring	Thermal image
Pyroelectric	✓	✗	✗	✗	✗
Thermopile (single element)	✓	✓	✗	✓	✗
	↓	↓	↓	↓	↓
Grid-EYE	✓	✓	✓	✓	✓

PRODUCT FEATURES

Dimensions	11.6 x 4.3 x 8.0mm (L x H x W)
Operating voltage	3.3V or 5.0V (depends on P/N)
Current consumption	Typ. 4.5mA (normal mode); 0.8mA (stand-by mode), 0.2mA (sleep mode)
Temperature range of measuring object	With amplification factor high gain: 0°C to 80°C, with low gain: -20°C to 100°C
Field of view	60° (vertical and horizontal)
Number of pixels	64 (vertical 8 x horizontal 8)
External interface	I ² C (fast mode)
Frame rate	1 or 10 frames/s
Typical temperature accuracy	Typ. ±2.5°C (depends on P/N)

Product name	Number of pixels	Operating voltage	Amplification factor	Model no.
Infrared array sensor Grid-EYE	64 (vertical and horizontal 8 x 8 matrix)	3.3V DC	High gain	AMG8831
			Low gain	AMG8832
		5.0V DC	High gain	AMG8851
			Low gain	AMG8852

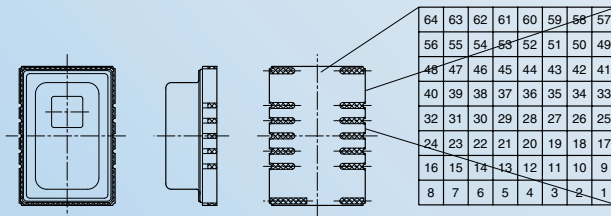
BLOCK DIAGRAM



INT terminal ④ normally has the same voltage as VDD. When interrupting, the voltage is the same as GND (0V).

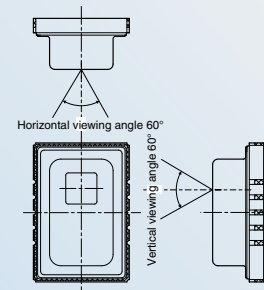
1. Pixel array

Pixel array from 1 to 64 is shown below.



2. Viewing field

Sensor viewing field (typical) is shown below.



Grid-EYE opens the door to a whole world of applications, ranging from energy savings in the lighting industry (commercial and public places as well as residential spaces) to household applications

(air conditioners, microwave ovens, etc.), from security systems (automatic doors, elevators, ATMs and kiosks, etc.) to the medical industry (patient detection and positioning) and many more.

APPLICATIONS



Safety

- Occupancy detection
- People counting, multiple person detection



Household

- Cooking stoves
- Microwave stoves
- Air conditioners
- Heating systems



Medical systems

- Patient detection
- Movement detection
- Thermal imaging
- Position detection



Lighting control

- Energy savings
- Detection without movement



Industrial temperature measurement

- Industrial process management and control
- Contact-less temperature measurement

Interested in an evaluation board?
Please refer to your local contact person



Have a look at
Grid-EYE!
Here is the film!



North America

Europe

Asia Pacific

China

Japan

Panasonic Electric Works

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