

Flame Detector

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What does it do?

This sensor can detect various flames, sparks, smoke and some dangerous gases in direct sunlight conditions. A modification of the standard flame detector allows determining the location where the spark, or flame, appears.

How does it work?

Due to GEM (Gaseous Electron Multiplier) technology, this sensor is 100-1000 times more sensitive than the best commercial sensors. GEM is a thin metal-coated polymer foil pierced by a high density of holes (50-100/mm²). Between metal coatings a voltage is applied creating an electric field which intensifies the energy of one photon. Otherwise a single photon doesn't have enough power to be recognized.

Unique characteristics

Sensitivity is 100-1000 times higher than the best commercial sensors.
Able to detect simultaneously flames, smoke and some dangerous gases.
Successor models are able to reliably detect a 1,5m³ fire at a ~1 km distance.

Limitations or constraints

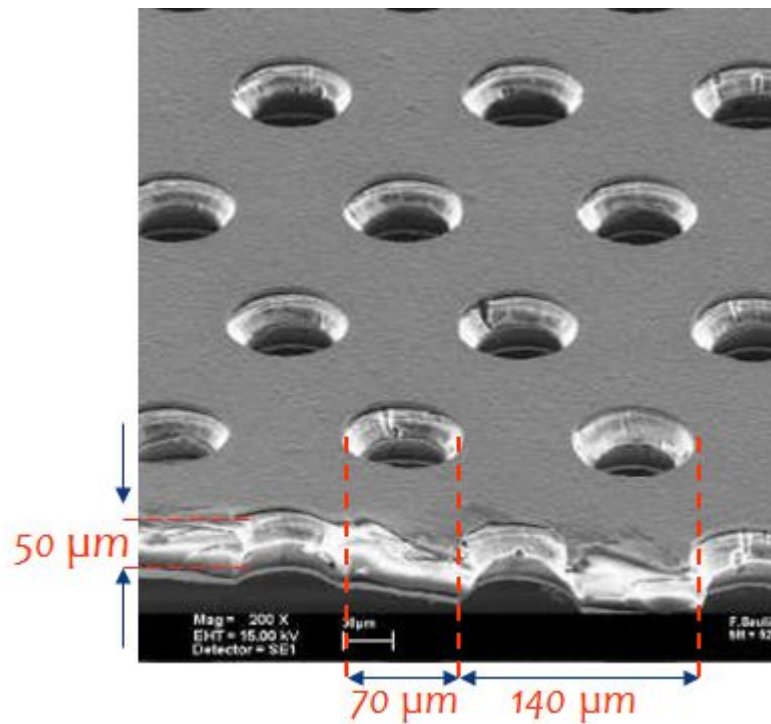
The holes need to be aligned and the distance between plates equal or close to hole diameter, which can be complicated in the case of very small holes and pitch. The same applies to the spacers.

Originally designed to be used for:

Detection of charged particles, such as radiography and medical diagnosis.

Questions related to this technology

How can this UV detection be used for another purpose?



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