FACT SHEET

DIGITAL CAMERA

# What's in a digital camera?


- **Arsenic compounds (photodiode)** Mined in China, Chile, Morocco, Peru, Kazakhstan, Russia, Belgium and Mexico.
- **Fluorite (lens)** Mined in China, Mexico e Mongolia.
- **Gallium (photodiode)** Mined in China, Germany and Kazakhstan.
- **Germanium (lens and photodiode)** Mined in China, Finland, Canada and United States.
- **Indium (photodiode)** Mined in China, South Korea and Japan.
- **Lead (photodiode)** Mined in China, Australia, United States, Peru, Mexico, Canada, India, Bolivia, Poland, Russia, Sweden, Ireland and South Africa.
- **Magnesium compounds (frame)** Mined in China and United States.
- **Silicon (photosensor and photodiode)** Mined in United States, Italy, Germany, United Kingdom, Australia, France, Spain, Japan, Poland, Hungary, South Africa, Mexico, Austria, Iran, Republic of Korea, Slovakia, Canada, Belgium, India, Bulgaria, Norway, Chile, Gambia, Turkey and Czech Republic.
- **Sulfur (photodiode)** Mined in United States, Canada, China, Russia, Japan, Saudi Arabia, Kazakhstan, Germany, United Arab Emirates, Republic of Korea, Mexico, Chile, Iran, France, Poland, India, Australia, Italy, Kuwait, Finland, Spain, South Africa, Netherlands and Uzbekistan.

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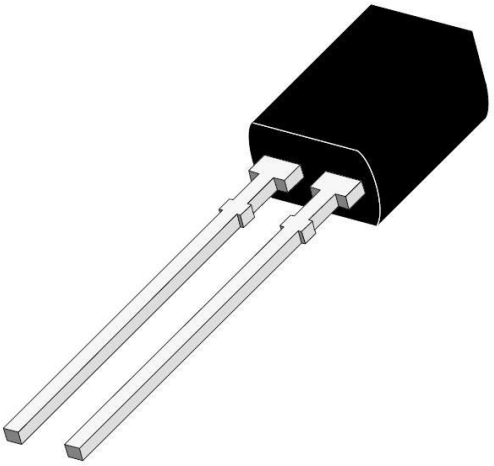

*Photodiode*: it's a diode that converts the wavelength of the electromagnetic wave into electrical current. It allows the transfer of electrical current in only one way and it's also used in smoke detectors, remote control and medical devices. In this contrivance is used Gallium, for which it doesn't exist any other substitute; Germanium, that can be replaced with Silicon (even if this material will become rare soon); Cadmium telluride can be used instead of Indium and Gallium compounds.

*Frame*: the structure of the best digital cameras available are now usually made with magnesium compounds, which make the camera slight, easy to handle, durable and resistant. Magnesium compounds are often replaced with Aluminium compounds for their similar feature.

*Lens*: they're made of different materials, glass and plastic are the most employed. The lens made up of glass produce a higher quality of the pictures, while the ones of plastic cause a loss of light and an elevated contrast; they also lack of the main elements that allow to make specific adjustments. Other materials employed are Fluorite and Germanium, which are rare but can be easily replaced with plastic, glass and quartz glass.

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## INTERESTING FACTS

- The first digital camera was created in 1957 by the scientist Russell Kirsch. In 1986 Kodak company was the first to introduce a system based on megapixel.
- Some of the raw materials mentioned above, which are used in the new digital cameras, have been used to develop photos in the analogical cameras era as well.
- We generally think that raw materials are only employed in technological device but nevertheless they are also used in polaroids that are handled everyday by young people.
- Nowadays digital cameras are used by everybody because they are easy to use and because they take high quality photos.
- There are different types of digital cameras: compact cameras, they are the easiest to use; 360-degrees cameras which take 360° photos; mirrorless; single lens and interchangeable-lens cameras.
- Unusual materials are used in digital cameras, too; one of them is the acrilyc that is used to make more resistant lens, another one is the meteoric glass which is extracted from meteorites; there is also the quartz glass that is used to to make lens, too.

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