Samsung Dual pixel

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Samsung

What are the camera features on the Galaxy S7 and S7 edge?
Last Update date : 2016.03.09

12MP rear camera
The pixels have been reduced in the Galaxy S7 devices from the 16MP camera found in the Samsung Galaxy S6 to a new 12MP camera.

This may seem like a step down, but the cameras on the Samsung Galaxy S7 and S7 Edge have a brighter F1.7 aperture lens. This means that the lens allows more light into the camera, resulting in brighter and better looking pictures, especially in low light.

Dual Pixel
The cameras on the Samsung Galaxy S7 and S7 Edge also use a new feature called Dual Pixel. Each tiny pixel that your camera uses to take a picture now uses two photo diodes (photo diodes are used to absorb light into a the camera) instead of one.

This lets your camera focus quicker than you would with your own eyes. A Dual Pixel sensor means that the autofocus will be so quick that even sudden movements are caught in the act, so struggling to take a picture of your pet in focus will be a thing of the past.

Motion panorama
Motion panorama is a feature that lets you record the movements of the objects in the picture. For example, a panorama shot across a park will also record the movement of the pets in the park. You can then swipe the screen or pan the device sideways to replay what you have just captured.

Motion photo
Motion photo captures three seconds of video before the picture is taken, changing a regular picture into a short video.

Spotlight
Spotlight lets you highlight certain parts of your face and make features stand out by turning on the feature when in Beauty Mode.

Flatter rear camera
The rear camera is now practically flush with the back of the Galaxy, measuring 0.46mm.

Front Screen Flash
You can now brighten selfies by using the Front Screen Flash feature on the Galaxy S7. The screen will light up to help lift the low tones in the frame, resulting in a better looking, more natural picture.

Click here to see a simulator that will take you through the steps to use the different features.

Related Models
SM-G930F, SM-G930X, SM-G935F, SM-G935X

Wednesday, March 09, 2016
Samsung Own Dual Pixel AF Sensor
BusinessWire: Samsung announces its 12MP, 1.4um dual pixel sensor for smartphones, already in mass production. The dual pixel is said to enable rapid AF even in low light situations.

“With 12 million pixels working as a phase detection auto-focus (PDAF) agent, the new image sensor brings professional auto-focusing performance to a mobile device,” said Ben K. Hur, VP Marketing, System LSI Business at Samsung. “Consumers will be able to capture their daily events and precious moments instantly on a smartphone as the moments unfold, regardless of lighting conditions.”

The new image sensor employs two PDs located on the left and right halves of a pixel, while a conventional PDAF-equipped sensor dedicates less than 5% of its pixels, with one photodiode each that converts light particles into measurable photocurrent for phase detection. As each and every pixel of the Dual Pixel image sensor is capable of detecting phase differences of perceived light, significantly faster auto-focus has become possible, especially for moving objects even in poor lighting conditions.

The image sensor has also adopted Samsung's ISOCELL technology, which isolates the photodiodes in each pixel with a physical wall to further reduce color cross talk, maximizing the image sensor's performance.

The new image sensor is built with chip-stacking technology: a 65nm sensor on top of 28nm logic chip.

Meanwhile, GSMArena found an unscientific Youtube comparison of speeds of Galaxy S7 dual pixel AF and Canon EOS 70D DSLR dual pixel AF:

https://www.youtube.com/watch?v=Y4C_msQ8yZU

Posted by Vladimir Koifman at 19:09

March 08, 2016 07:00 PM Eastern Standard Time

SEOUL, South Korea--(BUSINESS WIRE)--Samsung Electronics Co., Ltd., a world leader in advanced semiconductor technology, today announced its newest 12 megapixel (Mp) image sensor for smartphones, which will elevate the quality of mobile phone pictures. Already in mass production, this 1.4?m-pixel-based image sensor is equipped with Dual Pixel technology that has been reserved for DSLR cameras. The technology enables rapid auto-focus for fast photo shooting while producing premium image quality on mobile devices, even in low light situations.

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Samsung's new image sensor with Dual Pixel technology employs two photodiodes located on the left and right halves of a pixel, while a conventional image sensor dedicates less than five percent of its pixels, with one photodiode each that converts light particles into measurable photocurrent for phase detection. As each and every pixel of the Dual Pixel image sensor is capable of detecting phase differences of perceived light, significantly faster auto-focus has become possible. With such groundbreaking improvements, the image sensor ensures clear and sharp images especially for moving objects even in poor lighting conditions.

The image sensor has also adopted Samsung's ISOCELL technology, which isolates the photodiodes in each pixel with a physical wall to further reduce color cross talk, maximizing the image sensor's performance.

For top-of-the-line performance while keeping the size to a minimum, the new image sensor is built with cutting-edge chip-stacking technology. The Dual Pixel image sensor stacks a 65 nanometer (nm) sensor and 28nm logic chip together to deliver outstanding photo-taking experiences in today's sleek smartphones.

About Samsung Electronics Co., Ltd.

Samsung Electronics Co., Ltd. inspires the world and shapes the future with transformative ideas and technologies, redefining the worlds of TVs, smartphones, wearable devices, tablets, cameras, digital appliances, printers,

medical equipment, network systems, and semiconductor and LED solutions. We are also leading in the Internet of Things space through, among others, our Smart Home and Digital Health initiatives. We employ 319,000 people across 84 countries with annual sales of US $196 billion. To discover more, please visit our official website at www.samsung.com and our official blog at global.samsungtomorrow.com.

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