



## 0.08 Mega Pixel CMOS Image Sensor SP0821



### 1/15 Inch QVGA SOC CMOS Image Sensor

--For Handset Market



High cost performance SP0821 is a 1/15 inch 0.08 Megapixel image sensor. SP0821 can provide high quality digital pictures and high-definition (HD) video, and it focuses on mobile applications, for example, PC camera and web camera. By introducing advanced 2.5um pixel architecture, SP0821 achieves excellent best-in-class low-light sensitivity, signal-to-noise ratio, full-well capacity, quantum efficiency and low-power consumption. The SP0821 is able to provide stable performance between 0°C and 50°C. The SP0821 consists of 240 x 320 effective pixels, low power analog signal processing circuits (ASP), improved image signal processor (ISP), and SPI data output interface. It also offers following image control functions: mirror and flip, auto black level calibration, white balance, auto exposure control, color correction and defect pixel cancellation function, and so on. SP0821 supports high frame speed up to 30fps@QVGA format through the SPI Interface. All functions and parameters are programmable through a standard I2C interface. The extraordinary image capture ability, high compatibility, markedly ultra-low stack height and recommendable small chip size of SP0821 make the chip an efficient product for the mainstream and entry-level portable equipment.

[www.SuperPix.com.cn](http://www.SuperPix.com.cn)

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# SuperPix SP0821

## Application

- Mobile Phone Camera
- Tablet Computer Camera
- Notebook Camera
- PC Camera
- Web Camera

## Features

- Support QVGA (0.08Mega 240x320) solution
- Embedded image preprocessor functionality
  - Auto Black Level Calibration
  - Auto Exposure Control
  - White Balance
  - Noise Reduction Function
  - Sharpening Function
  - Color Correction Function
  - Gamma Correction
  - Defect Pixel Correction
  - Special Effect: Sepia, Monochrome
- Support RAW8 / YUV422 data output format
- Support I2C filter function
- Support SPI interface data output
- Support single power supply
- Support mainstream mobile phone platforms: MTK, Spreadtrum, Coolsand etc.

## Product Specifications

Parameter	Value	
Active Pixel Array	240 x 320	
Pixel Size	2.5um x 2.5um Square Pixel	
Lens Size	1/15 inch	
Lens CRA	22°	
Color Filter	Primary Color filter Bayer Arrangement	
Power Supply	I/O	2.6V - 3.0V
	Analog	2.6V - 3.0V
Power Consumption	Active	13mA
	Standby	<1uA
Data Format	RAW8, YUV422	
Output Format	SPI 1line / 2line	
Max. Frame Rate	30fps@QVGA Mode	
Input Clock	10 - 30MHz	
Operating	-20°C ~ 70°C	
Stable Temperature	0°C ~ 50°C	
Sensitivity	TBD	
Max S/R ratio	TBD	
Dynamic range	TBD	
Dark current	TBD	
Package	TSV	

