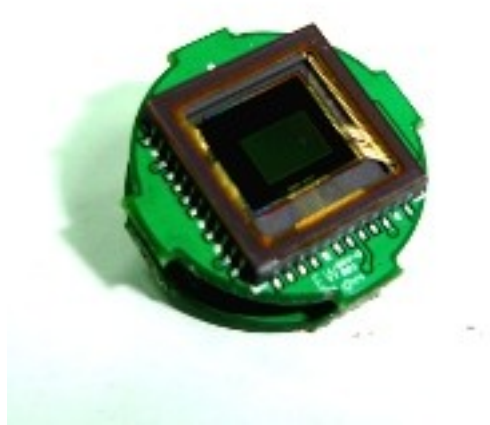


# SAP165

Super low light CMOS sensor camera with  
miniature dimension

## Preliminary Specification



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## Documentation History

<b>Revision</b>	<b>Description</b>	<b>Date</b>	<b>Remark</b>
V0.1	SAP165 release	Dec 2010	

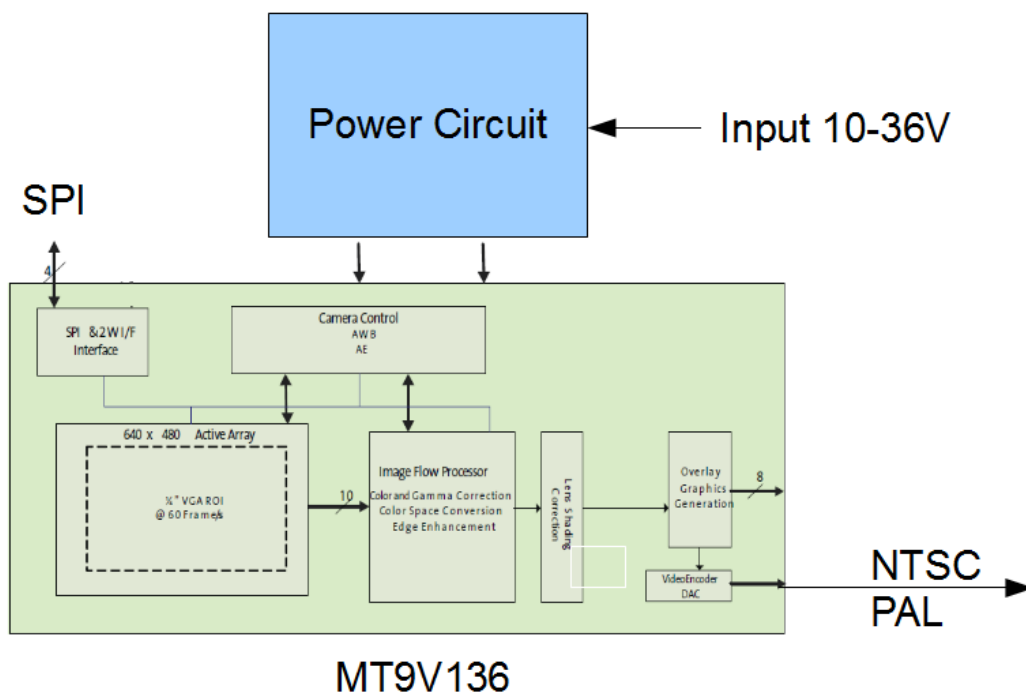
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# Features

- ✓ Aptina MT9v136 CMOS Sensor.
- ✓ Adaptive light gain design significantly improves sensitivity for superb low-light performance.
- ✓ On-Screen Display (OSD) Support.
- ✓ Extra pixels compensate for lens alignment tolerances.
- ✓ Embedded NTSC/PAL encoder
- ✓ System on a chip (SOC)—completely integrated camera system
- ✓ On-chip image flow processor performs processing such as color recovery/correction, sharpening, gamma, lens shading correction, on-the-fly defect correction, auto white balance, and auto exposure
- ✓ Programmable functions: gain, horizontal and vertical blanking, auto black level offset correction, frame size/rate, exposure, left-right and top-bottom image reversal, window size, and panning

# Block diagram



# Technical Specifications

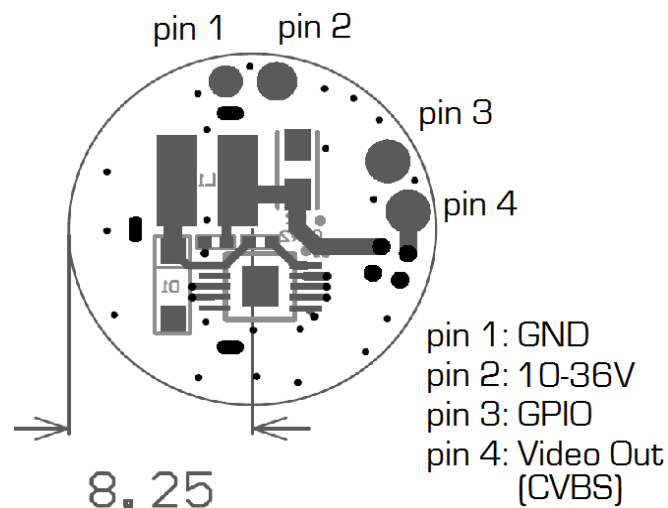
## 1. Electrical Characteristics

1.1 Chip set	Aptina MT9V136	
1.2 Image array	Optical format	¼ inch
	Active array	680(H) X 512(V)
	Imaging area	3.54(H) X 2.69(V) mm
1.3 Speed/output	Frame Rate	30 fps NTSC/25 fps PAL
	Master clock	27 MHz
	Data Format	NTSC/PAL
1.4 Sensitivity	Pixel size	5.6 um X 5.6um
	Pixel Dynamic range	82 dB
	Responsivity	11.5V/ lux-sec(550nm)
1.5 Power	Input voltage	10 -36V
	Current	40mA @ 12V
1.6 Overlay	Up to 4 layers	

## 2. Environmental Characteristics

2.1 Temperature	Operating range	- 30 °C to + 85 °C
	Storage	- 40 °C to + 125 °C
2.2 Mechanical dimensions	Diameter	16.5 mm
2.3 Interface		CVBS

Pin definition:



Unit: mm