OV7930 Color CMOS Analog CAMERACHIP^{TM}

General Description

The OV7930 (color) is a high performance quarter-inch CMOS CAMERACHIP^{TM} designed for all applications requiring a small footprint, low voltage, low power consumption and low cost color video camera.

The device supports NTSC composite video output and can directly interface with a VCR TV monitor or other 75 ohm terminated input with 2X standard TV signal range. The OV7930 CAMERACHIPs require only a single 5-volt DC power supply and have been designed for very low power operation.

Note: The OV7930 is available in a lead-free package.

Features

- Single chip 1/4" lens video camera
- Composite video: NTSC
- Sensitivity boost (+27 dB)/AGC ON/OFF
- Automatic exposure/gain/white balance
- External frame sync capability
- Aperture correction
- SCCB programmable controls:
  - Color saturation
  - Brightness
  - Hue
  - White balance
  - Exposure
  - Gain
  - Gamma curve
  - Aperture correction
- Gamma correction (0.45) ON/OFF
- Low power consumption
- +5 volt only power supply
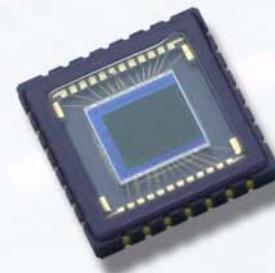- Wide dynamic range, anti-blooming, zero smearing

Ordering Information

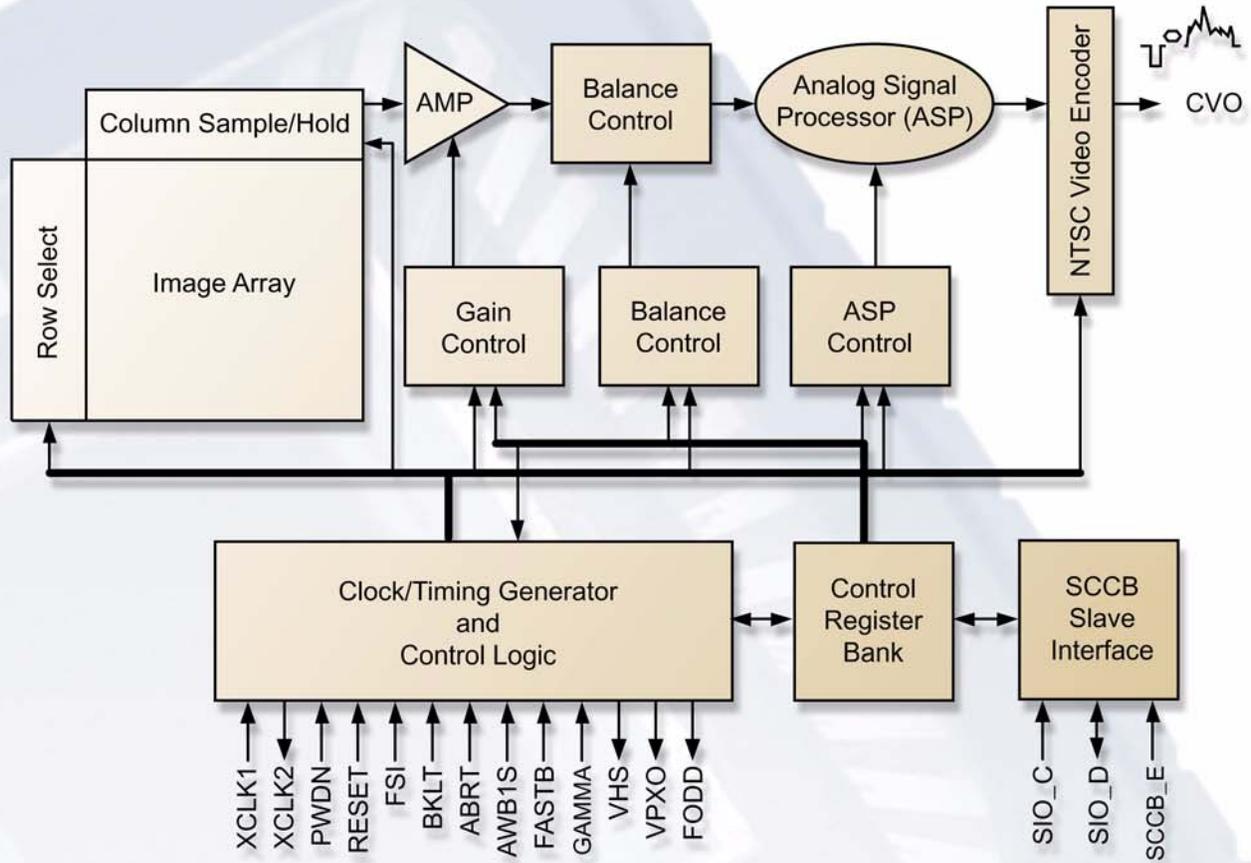| Product	Packages
OV07930-C11A (Color, NTSC, CVO)	CLCC-28
OV07930-P11A (Color, NTSC, CVO)	PLCC-28
OV07930-W	Wafer

Applications

- Video Conferencing
- Video Phones
- Video E-mail
- PC Multimedia
- Toys
- Security
- Surveillance
- Finger Printing
- Medical Equipment
- Dental Equipment

Key Specifications

	Array Size	510 x 492
	Power Supply	5 VDC $\pm$ 5%
Power Requirements	**Without Loading**	20 mA
	With 75 ohm Loading	< 35 mA
	Image Area	4.00 mm x 3.08 mm
Auto Electronic Exposure Time		1/60s - 6.3µs
Minimum Illumination (3000K)		< 2.0 Lux
	Optical Format	1/4"
	S/N Ratio	> 46 dB
	Dynamic Range	> 70 dB
	Pixel Size	7.86 µm x 6.25 µm
	Dark Current	< 100 mV/s
Fixed Pattern Noise		< 0.03% $V_{PEAK-TO-PEAK}$
	Package Dimensions	0.45 in. x 0.45 in.

Functional Block Diagram