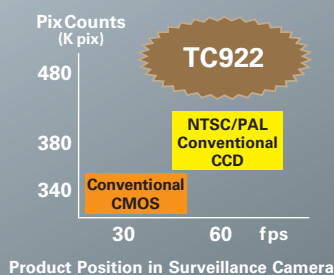


# 1/3-inch 800×600 SVGA Wide Dynamic Range CMOS Image Sensor



A CLOSER LOOK  
AT TI CMOS TECHNOLOGIES



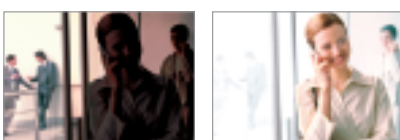
## TC922 Features

- Exceeding CCD image quality
- Wide Dynamic Range, 94dB
- Super VGA format, 800H x 600V
- 60FPS Progressive scan
- 1/3-inch optical format
- 5.6µm x 5.6µm pixel size
- RGB primary color filter
- On-Chip Microlens
- Built-in Noise compensation circuit
- Zero Smear
- Low dark current
- Best in class

TI's WDR Image



Conventional Camera



## Overview

Surveillance camera applications have traditionally needed high sensitivity performance for low light scenes. Recently wide dynamic range has also become a requisite to properly capture images from inside and outside the room.

Conventional CCD image sensors have been the only candidates for CCTV surveillance cameras. However, CCD's dynamic range is limited by its rather small well capacity.

TI has developed an epoch-making CMOS image sensor technology that features superior linear wide-dynamic range capability up to 100dB while keeping low noise and high sensitivity. This technology exceeds conventional CCD sensors for the surveillance market.

TI's CMOS image sensor exhibits a high quantum efficiency photodiode, and has a Lateral Overflow Integration Capacitor (LOFIC) structure in the pixel for accumulating up to 200,000 overflow electrons from the photodiode. This original pixel structure allows capturing both the shadow and the bright regions in the scene simultaneously; i.e. without multiple exposures and thus, it expands the dynamic range dramatically.

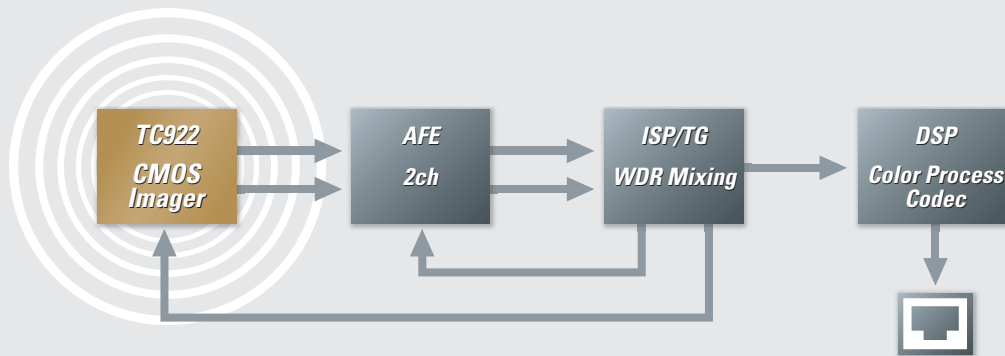
\*All images are simulated



### TC922 Specifications

Resolution	: 804Hx604V
Pixel Size	: 5.6umx5.6um
Optical Format	: 1/3 inch (4:3)
Color Filter	: RGB Primary Filter
Scan mode	: Progressive Scan
Frame rate	: SVGA 60FPS
Shutter	: Electronic Rolling Shutter
Control	: Serial
Gain	: Programmable
Supply Power	: 5V
Clock Voltage	: 3.3V
Data Rate	: 36MHz (Typ)
Dynamic Range	: 94dB
Operating Temperature Range	: -15 to 60deg C
Package	: 32pin CLCC

### TC922 IPNC Block Diagram



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