VX6852

QXGA EDOF camera module

Data Brief

Features

- 3.15 megapixel resolution sensor (2048 x 1536)
- Extended Depth of Field (EDOF)
- High quality lens
- Compact size: 6.5 mm x 6.5 mm x 4.6 mm
- Video data interface - CCP2.0
- Command interface - CCI
- Analog power supply from 2.4 V to 2.9 V
- Digital power supply from 1.7 V to 1.9 V
- On-board 10 bit ADC
- Integral EMC shielding and EMI reduction techniques
- Ultra low power standby mode
- Analog Binning (2x2) for higher image quality in video mode
- RoHS (lead-free) package

Description

This data brief outlines a high performance 3.15 megapixel EDOF camera module (VX6852) for use across a range of mobile phone handsets and accessories. It is designed to be used for high quality still camera functions and also supports low power video modes. The product can output raw bayer 3 Mpixel images at up to 20 fps.

The module design is optimized for both footprint and height. The module is always in focus from 30 cm to infinity. All components are integrated inside the camera module, with the exception of two CCI pull-up resistors and a de-coupling capacitor.

VX6852 offers an ultra low power consumption hardware standby mode consuming less than 30 µW (typ.).

A separate hardware accelerator (STV0986) or application engine (STn8815) device can be incorporated in the phone system to run the associated image processing algorithms in hardware where the baseband cannot support this processing load. The specifications of these devices are contained in a separate document.

Figure 1. VX6852 block diagram

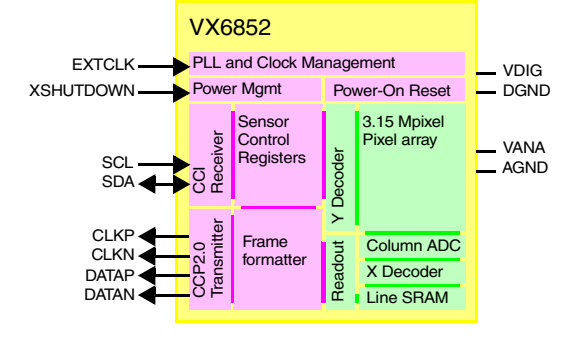
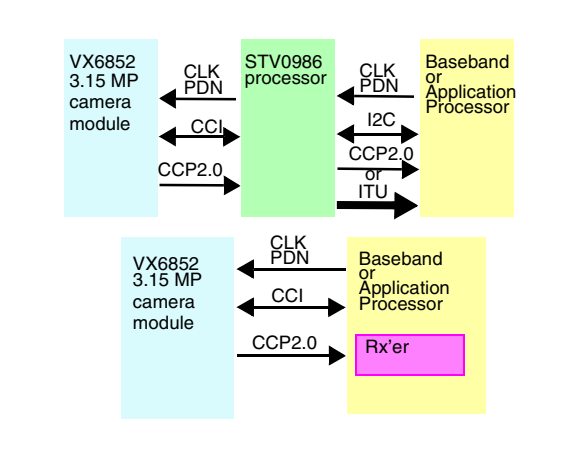


Figure 2. VX6852 application diagram



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1 Technical specifications

Table 1. Technical specifications

Parameter	Description
Pixel resolution	2048 x 1536 (QXGA)
Sensor technology	ST IMG175 process
Pixel size	1.75 µm x 1.75 µm
Exposure control	+ 81 dB
Analogue gain	+ 24 dB (max)
Digital gain	+ 6 dB (max)
Dynamic range	60 dB
Signal to noise	36 dB (@ 100 lux)
Supply voltages	Analogue: 2.4 V to 2.9 V Digital: 1.7 V to 1.9 V
Average power consumption	<200 mW (Viewfinder mode) <460 mW (Capture mode)
Package size (lxwxh)	6.5 mm x 6.5 mm x 4.6 mm
Lens	58° +/-2° HFOV F/2.6
TV distortion	<-0.28%, <+0.5%
Relative illumination	40 % (typ.)
System attach	SMIA65 socket

2 Ordering information

Table 2. Ordering information

Order code	Package	Packing
VX6852Q038/T2[(1)]	SMIA65 for socket attachment	Tape and reel

1. ECOPACK® package

3 Revision history

Table 3. Document revision history

Date	Revision	Changes
07-Feb-2008	1	Initial release.
11-Feb-2008	2	Corrected the digital supply voltage maximum value in *Features* and *Table 1: Technical specifications*. Corrected the TV distortion minimum value and the relative illumination value in *Table 1: Technical specifications*. Updated the second paragraph of the *Description*.
22-May-2008	3	Removed references to SMIA standard. Changed the F# in *Table 1: Technical specifications*.

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