

Crystal Image through  
Imaging Innovation

**PIXELPLUS**



***Brief Datasheet***

# Image Signal Processor for Automotive Solution

## PI3008K

Rev 2.0

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## ▶ Features

### Image Signal Processor

- 3A Control (AE/AWB/AF)
- Digital WDR
- 2D/3D DNR
- Lens Shading Correction
- Bayer Color Filter array de-mosaicing
- Dead Pixel Correction
- Color Interpolation
- Gamma Correction
- Histogram Calculation
- Color Suppression
- Hue/Saturation Control
- Brightness/Contrast Control
- Edge Enhancement
- Defog

### Lens Distortion Correction

- Look-Up Table Based Engine
- Max performance – FHD @ 60 fps
- Supported input image size – VGA to FHD
- Supported output image size – VGA to FHD

### Display Unit

- 5 layers Mixer
  - 2 Video, 3 OSD
- Support Corner View Scaling
  - 3 Section View Mode
  - 2 Section View Mode
- Support Double Buffering
- NTSC/PAL composite signal output
- Post processing
  - Memory to Memory Scaling
  - Color Conversion
  - Alpha Blending
- Brightness, Contrast, Hue, Saturation Control

### Peripheral Interfaces

- General Purpose IO
- 2 channel UART
- 2 channel SPI
  - Quad Mode, Single Mode
- 2 channel I2C
  - Master Mode, Slave Mode
- 1 channel CAN MAC

### Processor

- ARM7 Core
- 8KB Unified I/D Cache
- AXI Bus (Max. 200Mhz)
- 8 channel DMA
- 32 Vectored Interrupt Controller
- Watchdog Timer

### LPDDR Memory Controller

- Stacked 128Mbit LPDDR (Max. 200Mhz)

### Input/Output Format

- Input (Selective)
  - RGB Bayer 12bits
  - BT601/656 8bits (ISP Bypass)
- Output (Selective)
  - CVBS (960H)
  - YUV422 8bits/16bits (BT601, BT120)

### Physical Specifications

- 65nm CMOS Technology
- Power Consumption : Max. 370mW
- Operation Voltage
  - Core : 1.2V
  - I/O : 1.8V/3.3V
- Operating Temperature : -40°C ~ +105°
  - AEC-Q100 Grade2
- Package
  - 144pins FBGA, 0.65pitch, 10x10mm

## ▶ Development Platform

### Hardware Platform

- Main board with Sensor board

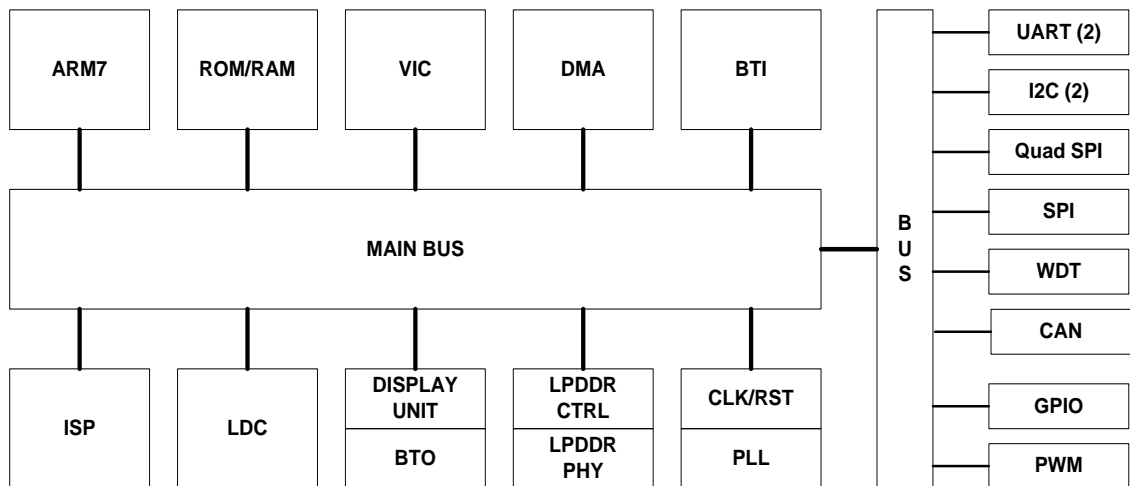
### SDK

- BSP
- Application Examples
- Build Environment

### Documents

- Datasheet and User manual
- BOM, Schematics and Layout files

## ▶ Functional Block Diagram





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