

### Product Description

The IP00C382 is a warping and edge-blending solution with a maximum 666Mpixel/sec signal processing capability. It supports 4K (up to 4096x2400) 60Hz input/output and additional format such as WQXGA (2560x1600) 120Hz. It features an embedded warp table generator that implements real-time image processing for formulated distortion correction such as H and V keystone correction and pin-cushion correction without impactation an external CPU. Edge-blending supports white peaking and results in higher performance image quality and products.

### Features

#### Input

- 30-bit RGB / 30-bit YUV4:4:4 / 20-bit YUV4:2:2  
@V-by-One®HS 4Gbps, 8-lane 1-port

#### Output

- 30-bit RGB / 30-bit YUV4:4:4 / 20-bit YUV4:2:2  
@V-by-One®HS 4Gbps, 8-lane 1-port

#### Input & Output Image Size

- Horizontal sync signal 16,384 pixels (max)
- Horizontal image active area 4,096 pixels (max)

#### External Memory

- DDR3-SDRAM 32bit PC1600 (4G / 2G / 1G x 16) x 2

#### External / Internal Sync

- Output sync signal is available only with internal sync signal

#### Input / Output Sync / Asynchronous Behavior

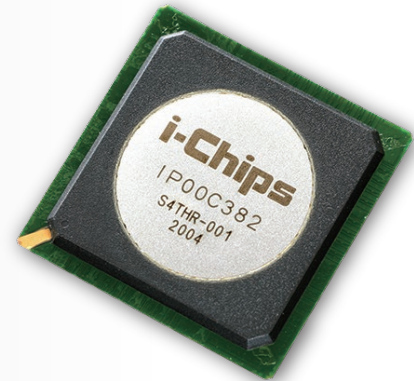
- Frame rate conversion with frame tear protection
- External force synchronization
- Genlock

#### Distortion Correction Mode

- RGB common distortion correction mode

#### Distortion Correction Method

- Coordinate correction look up table
- Embedded warp table generator  
( keystone correction and pin cushion correction )
- Load from external CPU or external serial flash



#### Distortion Correction Amount

- Up to 45 degrees ( horizontal / vertical )
- Vertical shrink ratio is about x0.6 to 0.7  
( about 50% of IP00C381 )

#### Image Correction

- Edge-blending ( RGB independent gamma correction, white peaking supported )
- Uniformity correction
- Mirror / flip image

#### Image Quality Control

- 16-bit color gamma correction tables ( 7 LUT available )
- Error diffusion, brightness and contrast adjustment

#### Bitmap OSD

- 256 colors / High color OSD ( 64K colors )
- Embedded font engine (65536 words)
- Blinking and semi-transparent (4 colors OSD )
- 90-degree rotation, OSD scroll
- Bitmap transfer from external serial flash

#### CPU Interface

- 4-wire serial

#### Serial Flash interface

- 2G-bit x 1 ( max )

#### Power Supply

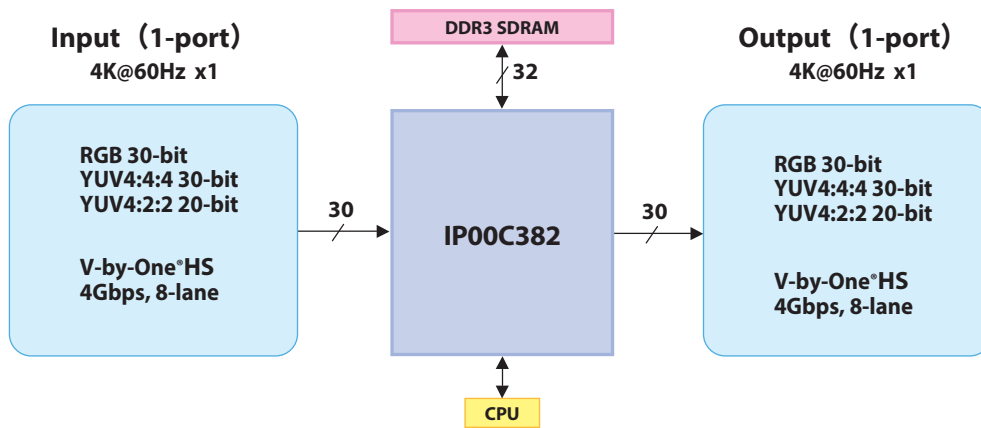
- 3.3V / 1.5V / 1.1V

#### Package

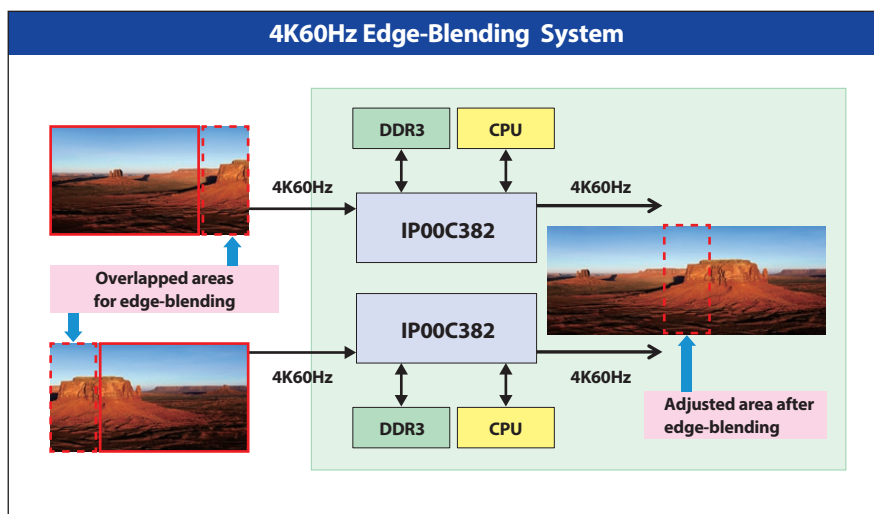
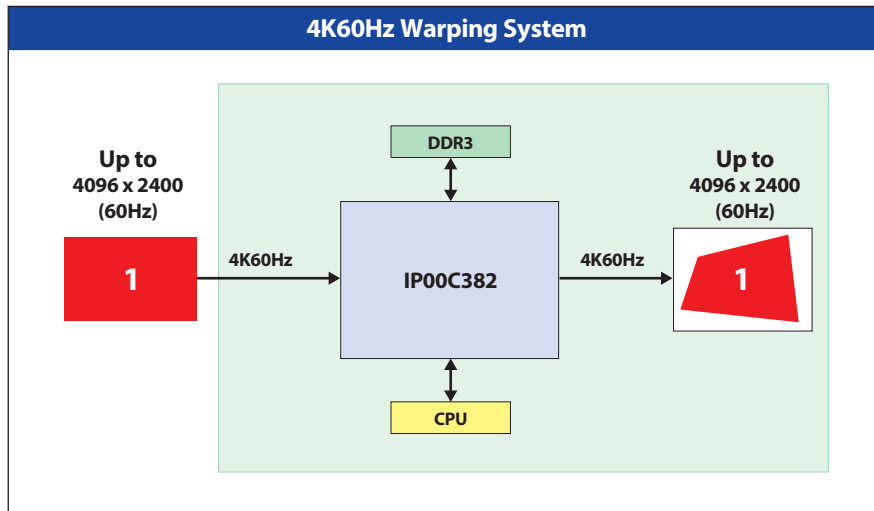
- 388-pin Plastic BGA (0.8mm pitch), 19mm x 19mm

# IP00C382 4K60Hz Supported Warping/Edge-Blending LSI

## Block Diagram



## Application Diagrams



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For more information please visit: [www.i-chips.co.jp](http://www.i-chips.co.jp) or [info@i-chips.co.jp](mailto:info@i-chips.co.jp)

**i-Chips Technology, Inc.**

i-Chips Technology, Inc. • 1-2-6, Shioe Amagasaki Hyogo, 661-0976 Japan • Tel : 81-6-6492-7277

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