

AP0100AT



Megapixel HDR Automotive
Image Co-processor
100-ball VFBGA

Megapixel HDR Automotive Image Co-processor

1 Flexible Two-Chip Platform Solution

Enables multiple automotive camera designs from a single platform

Increased flexibility and faster time to market

Tuned specifically to work with Aptina HDR sensors, including the AR0132AT 1Mp HDR sensor

2 Advance HDR Color Processing

Support up to 115dB Dynamic Range

Adaptive Local Tone Mapping (ALTM) for better color display

3 NTSC / PAL Analog Video Outputs

Enables a complete analog automotive camera solution, without need for added encoder

4 Perspective and Distortion Correction

Supports up to 185° WFOV lens correction with up to 1280x800 output

Triptych, Split, Trailer hitch and other viewing options

5 Overlays

Seven overlays – 16 colors per layer

Available on all interlaced output options

Applications

- Surround, rear, and front view cameras
- Blind spot/side mirror replacement cameras
- Automotive viewing/processing fusion cameras



How to Buy

Production and sample quantities of Aptina products may be ordered through qualified distributors. See our Web site for details. You may also request access to NDA data sheets and other technical documentation by visiting our Web site.

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Features

- Up to 1.2Mp (1280x960) Aptina sensor support
- 45 fps at 1.2Mp, 60 fps at 720p
- Optimized for operation with HDR sensors.
- Color and gamma correction
- Auto exposure, auto white balance, 50/60 Hz flicker avoidance
- Adaptive Local Tone Mapping (ALTM)
- Programmable Spatial Transform Engine (STE).
- Pre-rendered Graphical Overlay
- Two-wire serial programming interface (CCIS)
- Interface to low-cost Flash or EPROM through SPI bus (to config and load patches etc)
- High-level host command interface
- Standalone operation supported
- Up to 5 GPIO
- Fail-safe IO
- Multi-Camera synchronization support
- Integrated video encoder for NTSC/PAL with overlay capability and 10-bit I-DAC
- AEC-Q100 qualified

Specifications

Primary camera interfaces

- Parallel and HiSPi

Output interface

- Analog composite, up to 16-bit parallel digital output

Output format

- YUV422 8-bit, 10-bit, and 10-, 12-bit tone-mapped Bayer

Output

- NTSC: 720Hx487V; PAL: 720Hx576V

Maximum resolution

- 1280x960 (1.2 Mp)

Input clock range

- 6-30 MHz

Maximum frame rate

- 45 fps at 1.2 Mp, 60 fps at 720p

Maximum output clock frequency

- Parallel clock up to 84 MHz

Supply voltage

- VDDIO_S: 1.8 or 2.8V nominal
- VDDIO_H: 2.5 or 3.3V nominal
- VDD_REG: 1.8V nominal

Temperature Range

- Operating: -40°C to +105°C

Power Consumption: 170 mW



Distorted Image from Wide Angle Lens



Triptych View with Distortion Correction

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