

Intelligent Buffer IC μPD60801

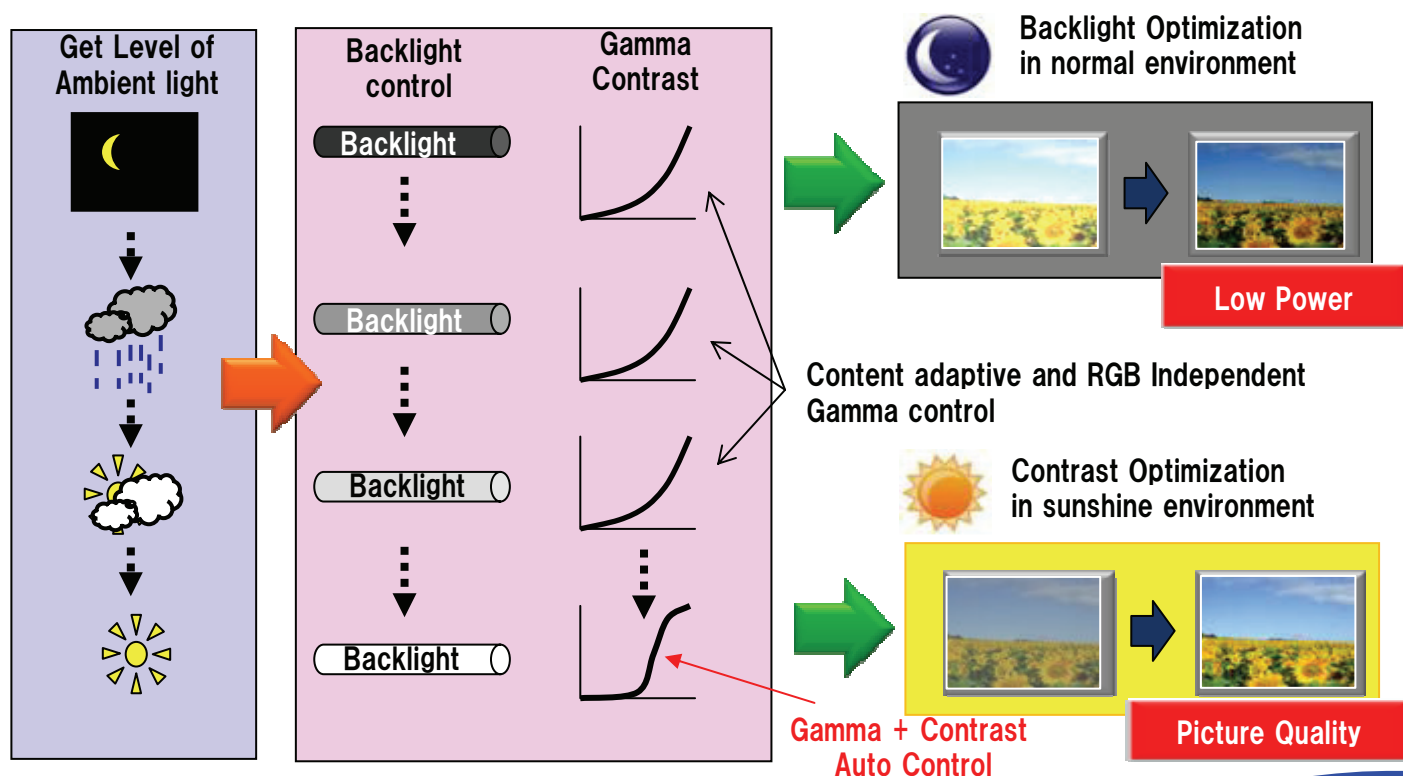
“μPD60801” is an intelligent buffer IC that enables the use of very high resolution displays in low power mobile terminals like mobile phones. The built-in 30Mbit NEC Electronics embedded DRAM Memory supports for example WSVGA (1024x600) x 2 image display resolutions (double buffer). By supporting both, MIPI-DSI and MDDI input interfaces, it enables OEMs to re-use the same display subsystem across all their CPU platforms.

Features

- ① Off-loading application processor from power hungry display management tasks and reduction of overall system power consumption
- ② Support double buffering even for very high display resolutions based on NEC Electronics embedded DRAM (eDRAM) technology
- ③ Backlight Power Saving and LCD enhancement based on NEC AGCPS-II algorithm
- ④ Dual Mode High-speed input interface (MIPI-DSI/MDDI)
- ⑤ Easy system integration across commonly used mobile terminal platforms

AGCPS-II Algorithm (Auto Gamma Control Power Saving-II)

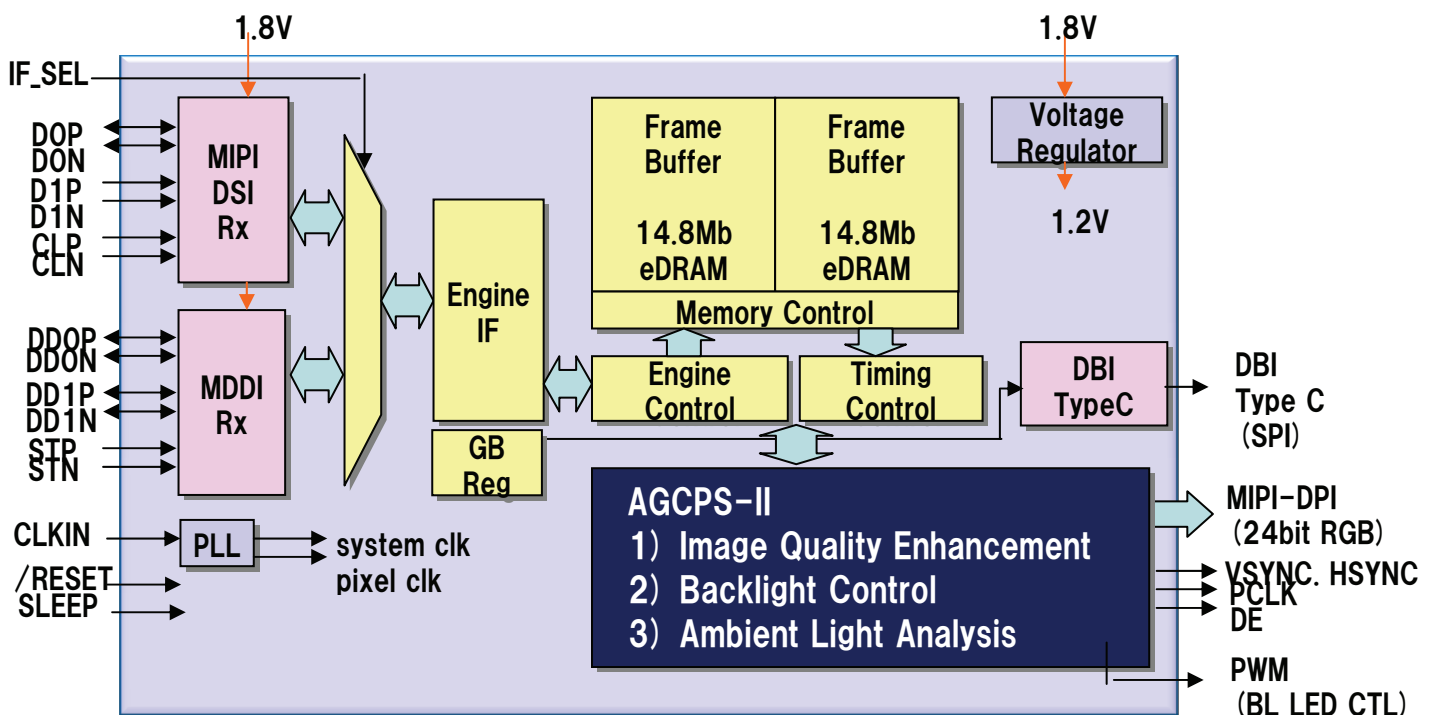
The Algorithm minimizes the LED Backlight power consumption and optimizes the picture quality especially under sunshine conditions by managing the LED brightness and the displays Gamma curves individually for each color component, depending on the actual picture contents and the ambient light conditions.



Main Specifications

Frame Buffer	30Mbit eDRAM low power, high density memory
Supported Resolutions	Single Buffer Mode & Double Buffer Mode: up to WVGA/FWVGA/qHD/WSVGA
Input Interface (Host side)	MDDI V1.2 Type-1 (High Speed Serial) (Please contact local sales to support Type-2) MIPI DSI (High Speed Serial)
Output Interface (Panel side)	Data: MIPI DPI-2 (RGB Parallel) Control: MIPI DBI Type-C (Serial)
Output Formats	RGB888, RGB666, RGB565
Image Processing Functions	AGCPS-II LCD Backlight and Image Contrast Management Window Access (Picture-in-Picture) Display data rotation and flipping
Tearing Effect Control	1. Double Buffer Mode, or 2. Graphic System Synchronization with Tearing Effect (TE) control signal or MIPI commands
GPIO	4 port GPIO
Power Supply	Single 1.8V power supply supported
Package	144pin WLBGA(5.6x5.6mm), 0.4mm ball pitch

Block Diagram



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