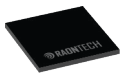


MICRODISPLAY CONTROLLER GUIDE VER 1.0

RDC series provides image processing algorithm along with LED controlling and data formatting for RDP series. One controller IC drives two panels simultaneously.



RDC200

Image Size: HD to FHD
Format: LVDS, MIPI
Frequency: Up to 60 Hz
Dimension: 7.4 x 7.4 mm



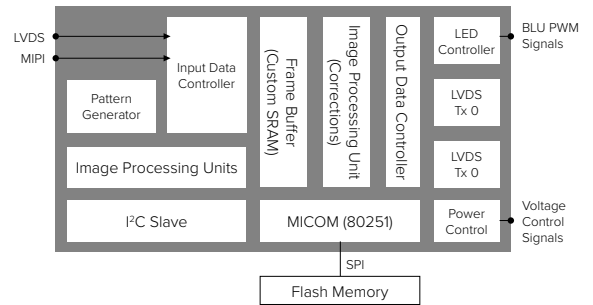
RDC100

Image Size: HD
Format: LVDS, LVCMOS, CIS
Frequency: 60 Hz / Up to 30 Hz
Dimension: 8 x 8 mm

FEATURES

- SUPPORTS** · RDP series (RAON LCoS Display Panel)
- VIDEO INPUT** · Image size : HD (1280 x 720) to FHD (1920 x 1080)
 · Frequency : HD / FHD (up to 60 Hz)
 · Format : LVDS, MIPI
- VIDEO OUTPUT** · Left / Right x (8 Data Channels + 1 Clock Channel)
 · Data Rate : max. 1 Gbps
 · Include COMMAND and OPTION packet (RDI - RAON Display Interface)
 · Left and right image for 3D
- KEY FUNCTIONS** · Programmable LED current control adjustment
 · Horizontal and vertical image flip and shift
 · Programmable gamma correction and VCOM
 · Optical image distortion and keystone correction
- EMBEDDED PERIPHERALS** · Frame buffer
 · 8 bit MICOM
- PACKAGE SIZE** · 7.4 x 7.4 mm (196 ball eWLB)

FUNCTIONAL BLOCK DIAGRAM



APPLICATIONS

- Head-Mounted Display
- Head-Up Display
- Pico Projector
- AV Projector
- VR

GENERAL DESCRIPTION

The RDC200 performs image processing and control, along with parallel data formatting, for driving 0.36-inch 720P LCoS module (RDP361H), 0.55-inch 1080P LCoS module (RDP550F), and 0.5-inch 720P LCoS module (RDP501H).

The RDC200 includes a very low-power, low-voltage-differential-signaling (LVDS) serialized interface for video data transport that minimizes the number of board interconnections and connector size, reduces electromagnetic emissions (EMI), and enables a lightweight and flexible cable link from a video source. Compatibility with standard LVDS drivers (OpenLDI) and MIPI DSI simplifies the system integrator's task.

The RDC200 interfaces with an LED driver via GPIO or option packet in RDI LVDS Transmitter. It sends strobes to indicate when each of the red, green, blue LEDs should be enabled or disabled, and frame synchronous command/option packets are used to control panel side such as the brightness of the LEDs, and so on.

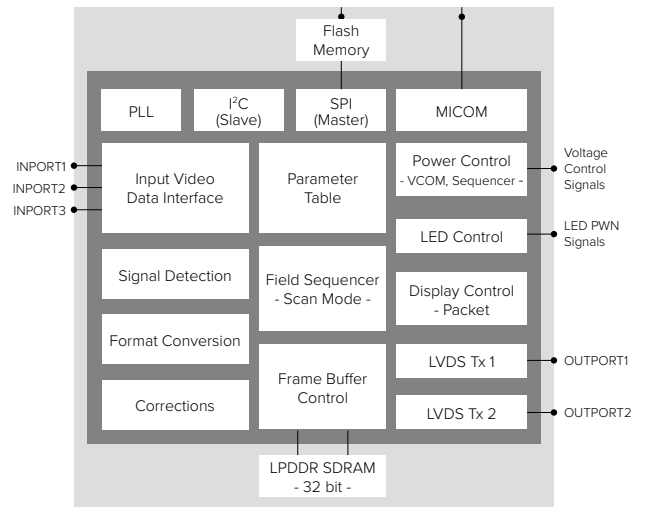
PRODUCT HIGHLIGHTS

1. Variable Input ports
2. Support dual FHD (1920x1080) or HD (1280x720) LCoS panels simultaneously
3. One clock source
4. Ultra-low power consumption with embedded frame buffer
5. Real-time one-shot optic/perspective correction
6. Stand-alone display is possible (User-defined bitmap images and bitmap font)
7. Embedded MICOM with programmable wide-voltage I/Os
8. Easy to use and configure
9. Simple LED Driver Control

FEATURES

- SUPPORTS** · RDP series (RAON LCoS Display Panel)
- VIDEO INPUT** · Image size : HD (1280 x 720) / smaller image from CIS
 · Frequency : 60 Hz / up to 30Hz for CIS camera input
 · Format : LVDS, LVCMOS, CIS
- VIDEO OUTPUT** · Left / Right x (4 Data Channels + 1 Clock Channel)
 · Data Rate : max. 800 Mbps
 · Include COMMAND and OPTION packet (RDI - RAON Display Interface)
 · Left and right image for 3D
- KEY FUNCTIONS** · Programmable LED current control adjustment
 · Horizontal and vertical image flip and shift
 · Programmable gamma correction and VCOM
- EMBEDDED PERIPHERALS** · Frame buffer
 · 8 bit MICOM
 · Flash memory
- PACKAGE SIZE** · 8 x 8 mm (196 ball eWLB)

FUNCTIONAL DIAGRAM



GENERAL DESCRIPTION

The RDC100 performs image processing and control, along with parallel data formatting, for driving a 0.5-inch 720P LCoS module (RDP501H).

The RDC100 includes a very low-power, low-voltage-differential-signaling (LVDS) serialized interface for video data transport that minimizes the number of board interconnections and connector size, reduces electromagnetic emissions (EMI), and enables a lightweight and flexible cable link to a remote video source. Compatibility with standard LVDS drivers simplifies the system integrator's task.

The RDC100 interfaces with an LED driver via GPIO or option packet in LVDS interface. It sends strobes to indicate when each of the red, green, blue LEDs should be enabled or disabled, and command packets are used to control the brightness of the LEDs.

APPLICATIONS

- Head-Mounted Display
- Head-Up Display
- Pico Projector
- AV Projector
- VR

PRODUCT HIGHLIGHTS

1. Variable Input port
2. Simple LED Driver Control
3. Compact size 8x8 BGA package