

STDP40x0

DisplayPort to LVDS/RGB Converter

■ GENERAL DESCRIPTION

The STDP40x0 is a DisplayPort to LVDS or RGB (LVTTTL) converter targeted for embedded and external display applications in mobile PC, LCD monitor, projector etc. This device has a LVDS or LVTTTL configurable output port offering higher flexibility for designs that requires interfacing with display panels, FPGAs or display controller SoCs.

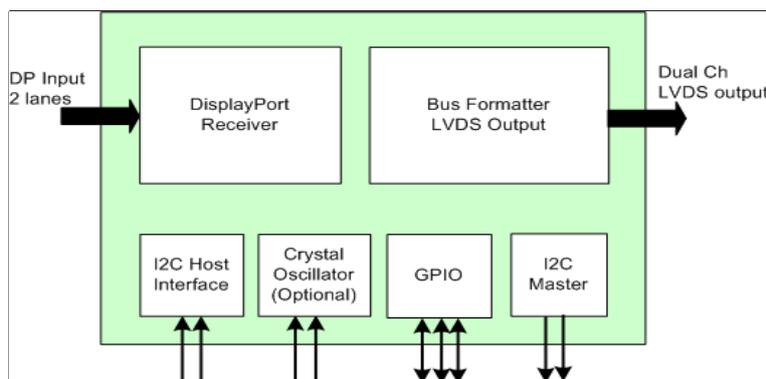
STDP40x0 features 4 lanes DisplayPort receiver with a total link bandwidth of 10.8Gbps. Besides the standard HBR an RBR link rate, it supports turbo link rate (3.24Gbps) for video resolutions up to 1080P 120Hz 3D timings with expanded horizontal blanking. The output interface comprises of a quad LVDS transmitter with a maximum pixel rate of 400MHz and a 60-bit LVTTTL transmitter with a maximum pixel rate of 330MHz. It provides seamless video color space conversion between RGB and YCbCr color formats supporting up to 10-bit per color. This device has four I2S and a single wire SPDIF audio output port handling up to 8Ch LPCM or any compressed audio formats. It also offers HDCP 1.3 content protection with repeater functionality for secure transmission of protected AV content.

The STDP40x0 family has 2 products: STDP4020 supports 4 Ch LVDS or 60-bit LVTTTL output, STDP4010 supports 2 Ch LVDS or 30-bit LVTTTL output. Both parts are available in 164 LFBGA 12mm x 12mm package.

■ FEATURES

- Enhanced DisplayPort receiver with turbo mode support (3.24Gbps/lane)
- Quad LVDS or 60 wide LVTTTL output
- Supports video resolutions 1080p120Hz, 2560x1600, 2560x2048 60Hz
- AUX to I2C bridge for EDID, MCCS pass through
- HDCP1.3 repeater with embedded keys
- I2S and SPDIF audio output
- ASSR- eDP display authentication
- Spread spectrum on DisplayPort, LVDS, and TTL interfaces for EMI reduction
- Color space conversion between RGB and YCbCr color formats
- Package: 164 LFBGA 12mm x 12mm) package

■ BLOCK DIAGRAM



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