

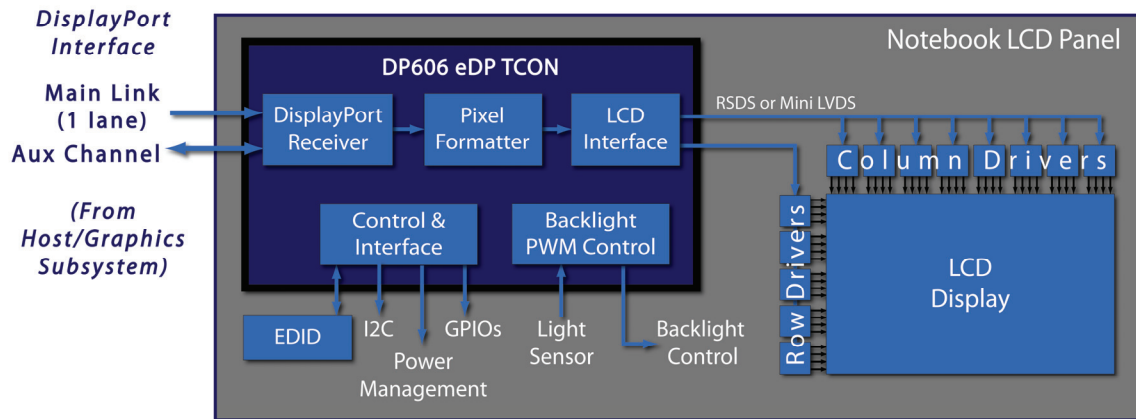


# DP606 eDP™ TCON

## DisplayPort™ Mobile PC LCD Timing Controller

### Product Brief

# DP606



### KEY FEATURES

- DisplayPort™ Receiver compliant to DisplayPort Specification 1.1a
- 180mW typical power consumption (at 1440x900 resolution)
- Supports one DisplayPort Main Link lane at 2.7Gbps and 1.62Gbps
- CrystalFree technology – no external timing reference needed
- “Instant On” technology supports eDP with no link training
- Advanced equalizer in DP receiver compensates for cable and PCB losses, no need to adjust TX driver strength and pre-emphasis levels
- High receiver sensitivity allows reduced DP TX output swing to minimize system power
- Supports advanced dynamic refresh rate timing for power saving
- Supports reduced RSDS/min-LVDS output swing to save power
- Accepts Spread Spectrum Clocked eDP from Source
- Additional Spread Spectrum Clocking can be applied to LCD interface
- Integrated TCON with programmable TCON control signal generation
- Supports reduced blanking timing and reduced refresh rate
- Selectable RSDS output interface mode with programmable drive strength, maximum clock rate of 120MHz
- Selectable mini-LVDS output interface mode with programmable drive strength, maximum clock rate of 180MHz
- Main link and RSDS/ mini-LVDS pin swapping for top or bottom mounting configurations
- LCD power sequence control
- Light sensor input and pulse-width-modulation back light control output
- I2C slave interface for optional device control
- I2C master interface for EDID ROM
- Hardware driven power management supports various power states
- ESD HBM 5kV
- 64-pin QFN RoHS package

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### GENERAL DESCRIPTION

The DP606 is an LCD timing controller (TCON) with a one-lane Embedded DisplayPort (eDP™) Receiver to support LCD panels for mobile PC and embedded display PC platforms. Both RSDS and mini-LVDS signal formats are supported at the output interface (user selectable). The DP606 consumes very low power and integrates all the necessary functions for a mobile or embedded TCON.

The DisplayPort receiver core can support a one lane DisplayPort interface at the standard data rates of 2.7Gbps or 1.62Gbps. RGB pixel format can be 18 or 24 bits per pixel. The following are examples of supported formats:

- WSXGA+ (1680x1050) at 18 bits per pixel
- WXGA+ (1440x900) at 24 bits per pixel
- WXGA (1280x800, or 1360x768, or 1280x768) at 24 bits per pixel

The device can support Full Link Training, Fast Link Training, or “No Link Training” whereby the eDP source can simply send video data without training sequences or patterns, providing an “instant on” operation for the display. In all cases, Aux channel can be used for EDID reads by the Source, as well as communicating commands and status.

### APPLICATIONS

- Notebook LCD Panels
- Embedded LCD Panels

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