

LT86101SX --- Product Brief

HDMI/DVI Repeater

Features

- Compatible with HDMI 1.3, supports 2.25Gbps data rate
- Supports 3D video formats and 4Kx2K extended resolution formats
- Adaptive receive equalization up to 40dB to compensate for long/cheap cable losses
- ODTs and calibration for better signal integrity
- Separate ODT supply for AC-coupled applications
- Configurable transmit de-emphasis up to -9dB to pre-compensate signal distortion
- Integrated back-termination to improve output signal quality
- 5V-tolerant DDC buffer
- Extends cable length as follows: (RX-side + TX-side)
 - Up to (55m + 20m) over 26 AWG STP HDMI cable @ 1.65Gbps
 - Up to (35m + 20m) over 26 AWG STP HDMI cable @ 2.25Gbps
 - Up to (25m + 15m) over 28 AWG STP HDMI cable @ 1.65Gbps
 - Up to (15m + 10m) over 28 AWG STP HDMI cable @ 2.25Gbps
- Cascadable for further cable reach
- Dual control modes for flexible applications
- Link activity detection to enable squelch option
- Power dissipation of 0.75W typical
- ESD rating: HBM at $\pm 6\text{kV}$
- 7mm x 7mm 48-pin QFN lead-free package

Description

LT86101SX is Lontium's 4th generation HDMI/DVI repeater based on ClearEdge™ technology, compliant with the HDMI 1.3 (High Definition Multimedia Interface) specification. It is a 6.75Gbps (3 x 2.25Gbps) high performance re-clocking device that supports 3 TMDS data channels and a single clock channel. The device also integrates a bi-directional DDC active buffer and a parallel CEC active buffer to provide a complete HDMI/DVI repeater solution.

Dual control modes are available for LT86101SX. This provides system designers with very flexible solutions, for consideration of either performance or cost. The LT86101SX supports two control modes: Pin Control Mode and I2C Control Mode. In Pin Control Mode, no external MCU is needed, and the basic functions are under control of pin configurations, however advanced functions are at default settings. In I2C Control Mode, an external MCU is required, and the chip is fully controlled by MCU while the control pin configurations are not valid any more.

The LT86101SX is offered in a 7mm x 7mm 48-lead QFN package, and operates over a 0°C to +70°C temperature range.

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