

THC63LVD827-Q

LOW POWER / SMALL PACKAGE / 24Bit COLOR LVDS TRANSMITTER

General Description

The THC63LVD827-Q transmitter is designed to support pixel data transmission between Host and Flat Panel Display and Dual Link transmission between Host and Flat Panel Display up to 1080p/1920x1200 resolutions.

The THC63LVD827-Q converts 27bits (RGB 8 bits + Hsync, Vsync, DE) of CMOS/TTL data into LVDS (Low Voltage Differential Signaling) data stream. The transmitter can be programmed for rising edge or falling edge clocks through a dedicated pin.

For dual LVDS out, LVDS clock frequency of 87MHz, 51bits of RGB data are transmitted at an effective rate of 609Mbps per LVDS channel.

For single LVDS out, LVDS clock frequency of 174MHz, 27bits of RGB data are transmitted at an effective rate of 1218Mbps per LVDS channel.

21bits (RGB 6 bits + Hsync, Vsync, DE) mode is also selectable for 6bit color transmission with lower power.

Features

- Low power 1.8V CMOS design
- 7mm x 7mm/72pin/0.65mm pitch/TFBGA package applicable to non-HDI PCB.
- Wide dot clock range, 10-174MHz, suited for TV Signal: up to 1080p(74.25MHz dual)
PC Signal: up to 1920x1200(77MHz dual)
- Supports 1.8V single power supply
- 1.8V/2.5V/3.3V TTL/CMOS inputs are supported by setting IOVCC=1.8V/2.5V/3.3V
- LVDS swing reducible by RS-pin to reduce both EMI and power consumption
- PLL requires No external components
- Flexible Input / Output mode
 1. Single in / Dual LVDS out
 2. Single in / Single LVDS out
 3. Double edge Single in / Dual LVDS out
- 2 LVDS data mapping to simplify PCB layout
- Power down mode
- Input clock triggering edge selectable by R/F pin
- 6bit / 8bit modes selectable by 6B/8B pin
- AEC-Q100 Grade 2 support

Block Diagram

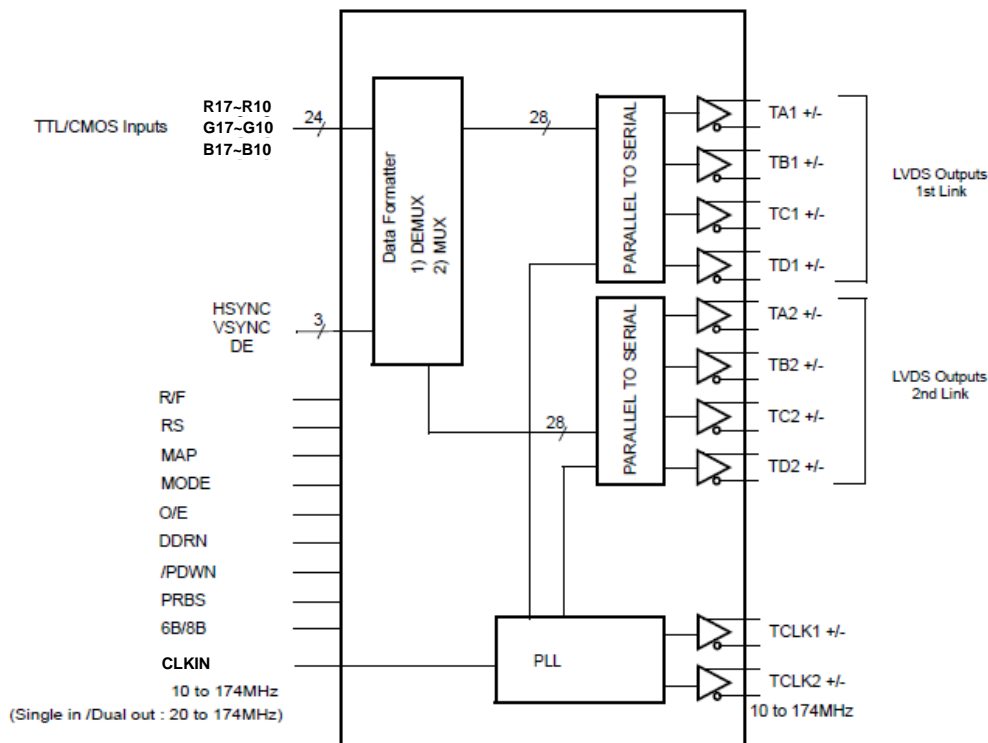


Figure 1. Block Diagram

Package

TFBGA

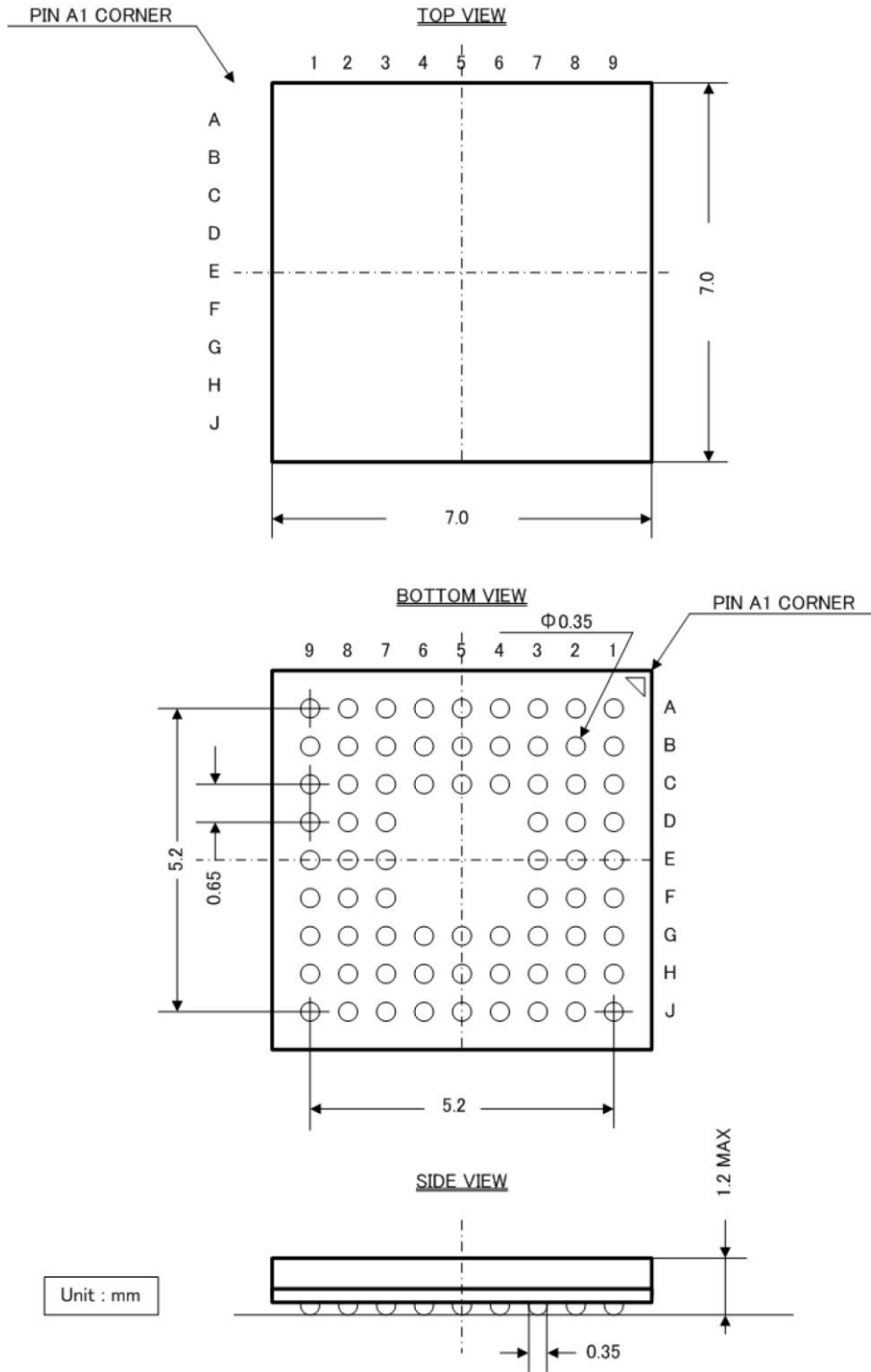


Figure 2. Package Diagram

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10. The product or peripheral parts may be damaged by a surge in voltage over the absolute maximum ratings or malfunction, if pins of the product are shorted by such as foreign substance. The damages may cause a smoking and ignition. Therefore, you are encouraged to implement safety measures by adding protection devices, such as fuses.

THine Electronics, Inc.

sales@thine.co.jp

<https://www.thine.co.jp>