CEL California Eastern Laboratories | THine THine Electronics, Inc.
World's Leading Company in Mixed Signal Technologies

To Our Customers

Continuing it's rich tradition of partnering with high quality Japanese semiconductor suppliers, CEL is now partnering with THine from May of 2015 onwards.

THC63LVD1027(-Q) Evaluation Kit

LVDS Dual Link Evaluation Board

Parts Number: THEVA1027-V2

1. General Description

THEVA1027-V2 is designed to evaluate THC63LVD1027(-Q) for transmission video data.
THC63LVD1027(-Q) chipset can transmit 35bit data via dual channel LVDS.
The maximum input clock frequency of THC63LVD1027(-Q) is 135MHz, and the maximum output clock frequency of THC63LVD1027-Q is 100MHz.

2. Features

THC63LVD1027

- Low power single 3.3V CMOS design
- Power down mode
- Wide dot clock range suited for TV signal(480i to 1080p), PC signal(VGA to UXGA)
- PLL requires no external components
- Single/Dual LVDS (Open-LDI) in, Single/Dual LVDS (Open-LDI) out
- Distribution signal duplication mode
- Support Reduced Swing LVDS for Lower EMI
- 64 Pin TSSOP with Exposed PAD (0.5mm lead pitch)

3. Overview

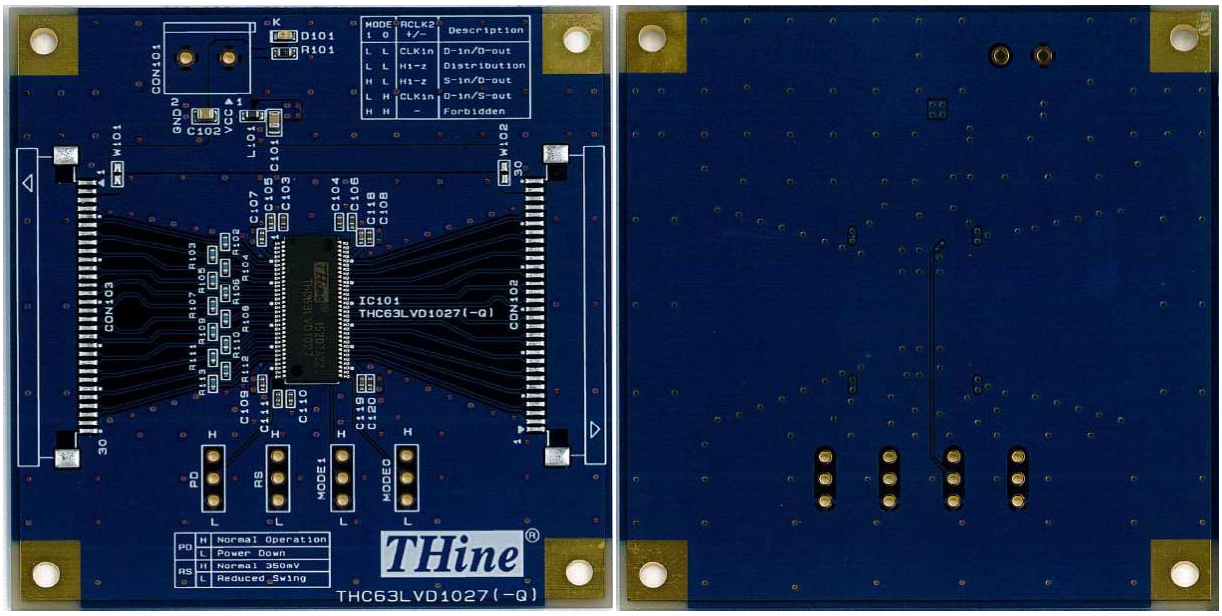


Figure 1 THEVA1027-V2

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4. Power Supply Setup

This chapter shows power supply condition.

Caution: Please check if there is no power-GND short on below red trace before supplying any power.

3.3V Power Supply to Each Board

Each evaluation board requires 3.3V power supply. Please use “CON1” connector typically.

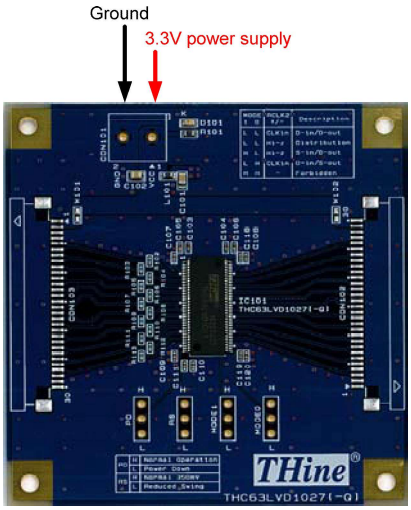


Figure 2 THEVA1027-V2 power supply for evaluation board

Power Supply from / to Connector

3.3V power supply can be connected to CON103 and CON102 by using W101 and W102 solder jumper.

THEVA1027-V2

W101: Connect the 3.3V power supply with pin#1 and 2 of CON103.
W102: Connect the 3.3V power supply with pin#29 and 30 of CON102.

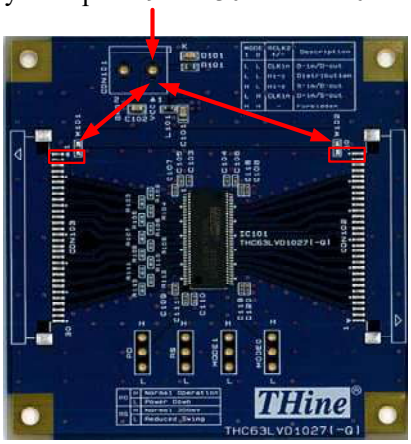


Figure 3 THEVA1027-V2 power supply from / to each connector

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5. Function Setting

Setting pin of each board is shown in yellow area of Figure 4.

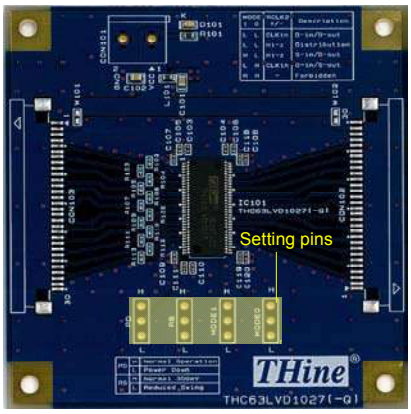
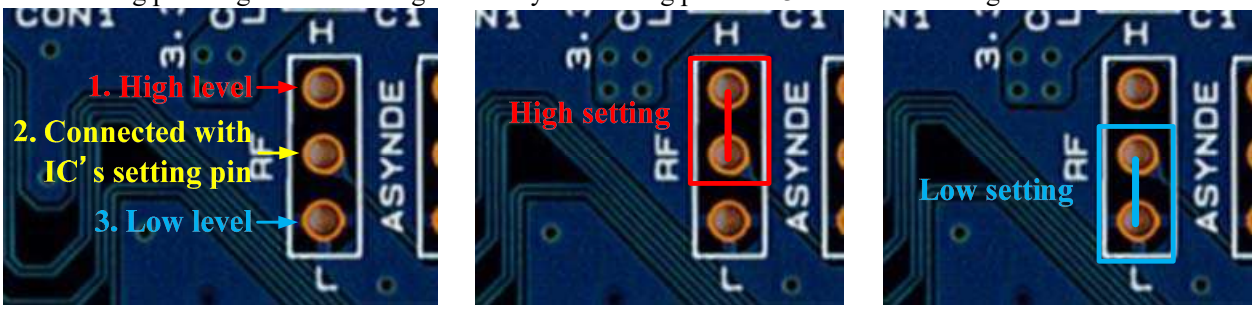


Figure 4 THEVA1027-V2 position of function setting pin

Pin#2 of each 3HEADER is connected to IC's setting pin.
Each setting pin's high or low setting can set by connecting pin#2 of 3HEADER and high level or low level.



(a)3HEADER Description (b)High Level Setting (c)Low Level Setting

Figure 5 Schematic diagram of High / Low setting description

6. Status Indicate LED

LED "D101" indicates 3.3V power supply status.

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7. Function

This chapter shows function setting of THEVA1027-V2.

Table 1 THEVA1027-V2 function setting description

<table>
<tr><th>Silk</th><th>Symbol</th><th>Function</th></tr>
<tr><td>PD</td><td>PD</td><td>Power down function setting
H : Normal Operation
L : Power Down Mode (All outputs are Hi-Z)</td></tr>
<tr><td>RS</td><td>RS</td><td>LVDS swing mode.
<table>
<tr><th>RS</th><th>LVDS Swing</th></tr>
<tr><td>H</td><td>350mV</td></tr>
<tr><td>L</td><td>200mV</td></tr>
</table></td></tr>
<tr><td>MODE1</td><td>MODE1</td><td rowspan="2">Pixel data mode select
<table>
<tr><th>MODE1</th><th>MODE0</th><th>RCLK2+/-</th><th>Function</th></tr>
<tr><td>L</td><td>L</td><td>Clock input</td><td>Dual-in / Dual -out</td></tr>
<tr><td>L</td><td>L</td><td>Hi-Z</td><td>Distribution</td></tr>
<tr><td>H</td><td>L</td><td>Hi-Z</td><td>Single-in / Dual -out</td></tr>
<tr><td>L</td><td>H</td><td>Clock input</td><td>Dual-in / Single-out</td></tr>
<tr><td>H</td><td>H</td><td>-</td><td>Reserved</td></tr>
</table></td></tr>
<tr><td>MODE0</td><td>MODE0</td></tr>
</table>

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8. Schematic

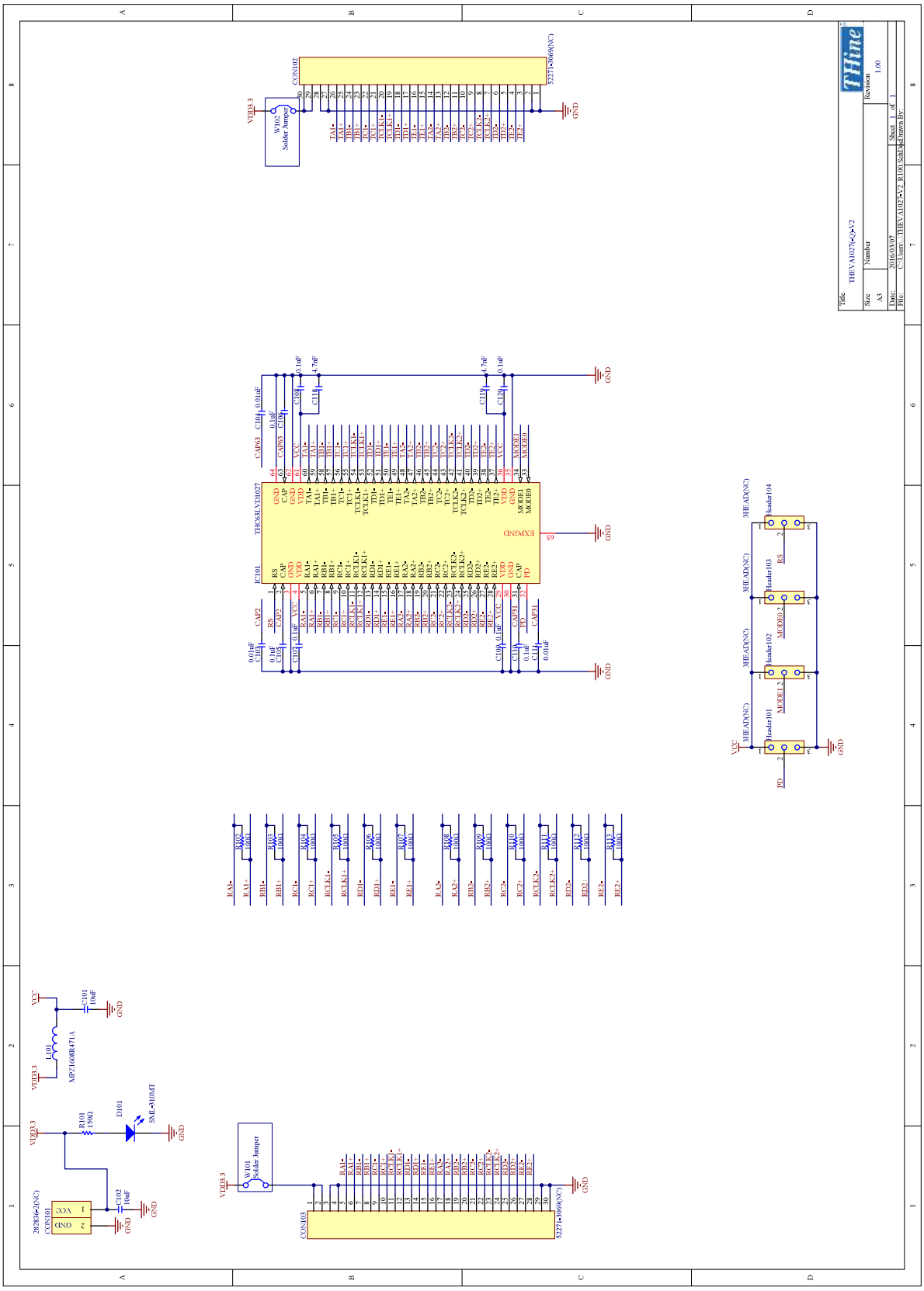


Figure 6 THEVA1027-V2 Schematic

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9. Bills of Materials

Table 2 THEVA1027-V2 BOM

Comment	Description	Value	Note	Designator	Q'ty
Capacitor2012	2012	10uF	16V	C101, C102	2
Capacitor1005	1005	0.01uF	16V	C103, C104, C111	3
Capacitor1005	1005	0.1uF	16V	C105, C106, C107, C108, C109, C110, C120	7
Capacitor1005	1005	4.7nF	16V	C118, C119	2
282836-2	282836-2	282836-2(NC)	5mm pitch	CON101	1
CN-FFC(1.0)30PD	CN-FFC(1.0)30PD	52271-3069(NC)	1mm pitch	CON102, CON103	2
LED1608	1608	SML-310MT	Green	D101	1
3HEAD	3HEAD	3HEAD(NC)	2.54mm pitch	Header101, Header102, Header103, Header104	4
THC63LVD1027	TSSOP64			IC101	1
Inductor1608	1608	MPZ1608R471A		L101	1
Resistor1608	1608	150Ω	0.1W	R101	1
Resistor1005	1005	100Ω	0.1W	R102, R103, R104, R105, R106, R107, R108, R109, R110, R111, R112, R113	12

10. Set Items

Table 3 THEVA1027-V2 Set Items

TYPE	Part No.
DC Connector	282836-2
FFC Connector for LVDS Link	52271-3069
FFC 30pin 1mm Pitch for LVDS Link	98267-0475

It's possible to mount these parts on this board and use.

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