

# THC63LVD1027D Evaluation Kit

LVDS Dual Link Evaluation Board

Parts Number: THEVA1027D-V1

## 1. General Description

THEVA1027D-V1 is designed to evaluate THC63LVD1027D for transmission video data. THC63LVD1027D chipset can transmit 35bit data via dual channel LVDS. The maximum input clock frequency of THC63LVD1027D is 150MHz.

## 2. Features

### THC63LVD1027D

- Low power single 3.3V CMOS design
- Power down mode
- Wide dot clock range suited for Flat Panel Display up to WUXGA resolution
- 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

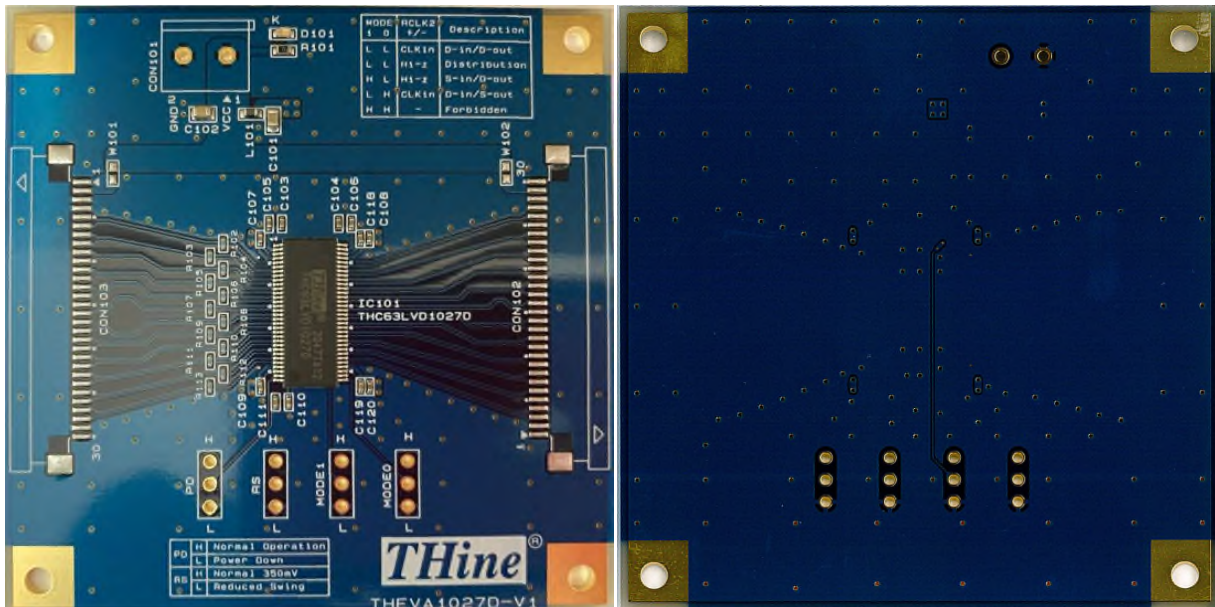


Figure 1 THEVA1027D-V1

## 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.

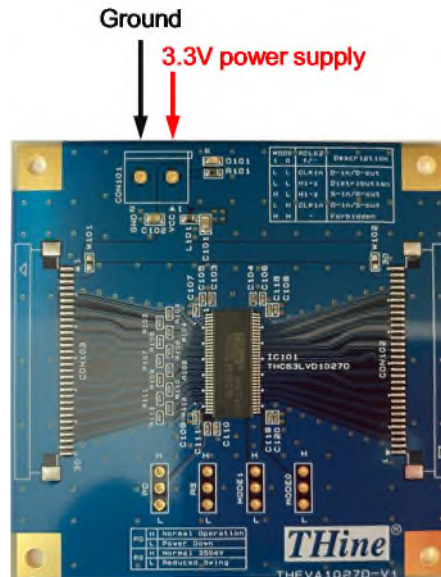


Figure 2 THEVA1027D-V1 power supply for evaluation board

### Power Supply from / to Connector

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

#### THEVA1027D-V1

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.

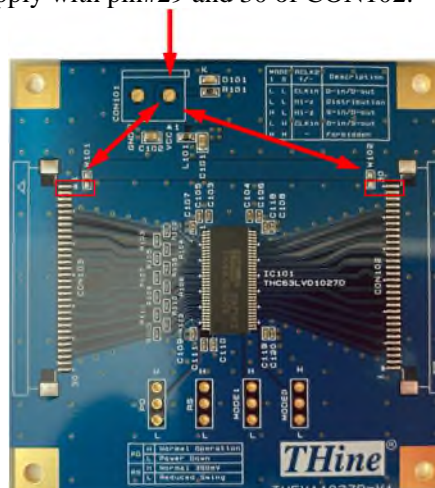


Figure 3 THEVA1027D-V1 power supply from / to each connector

## 5. Function Setting

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

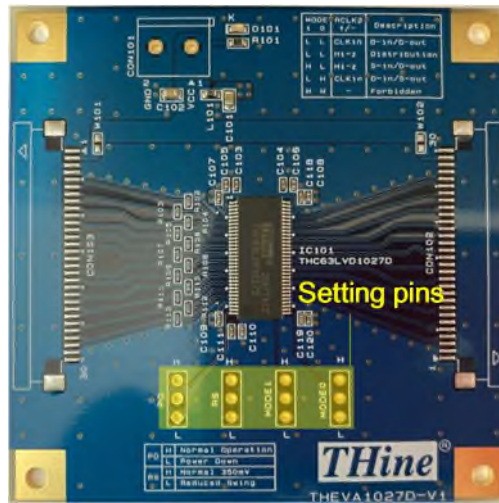
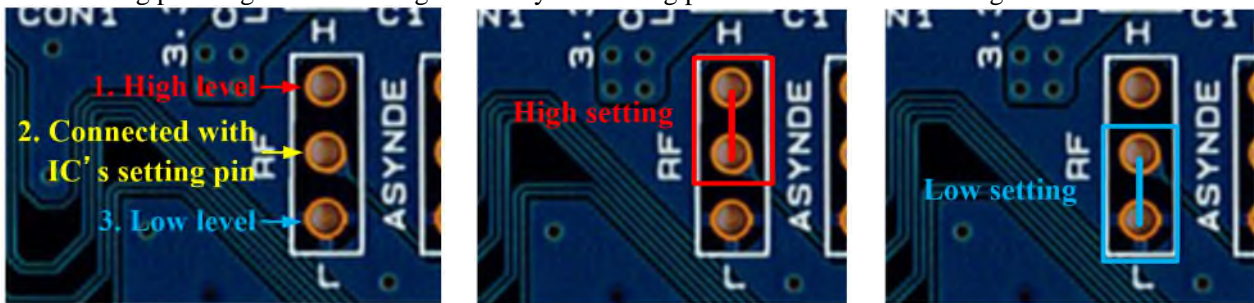


Figure 4 THEVA1027D-V1 position of function setting pin

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.

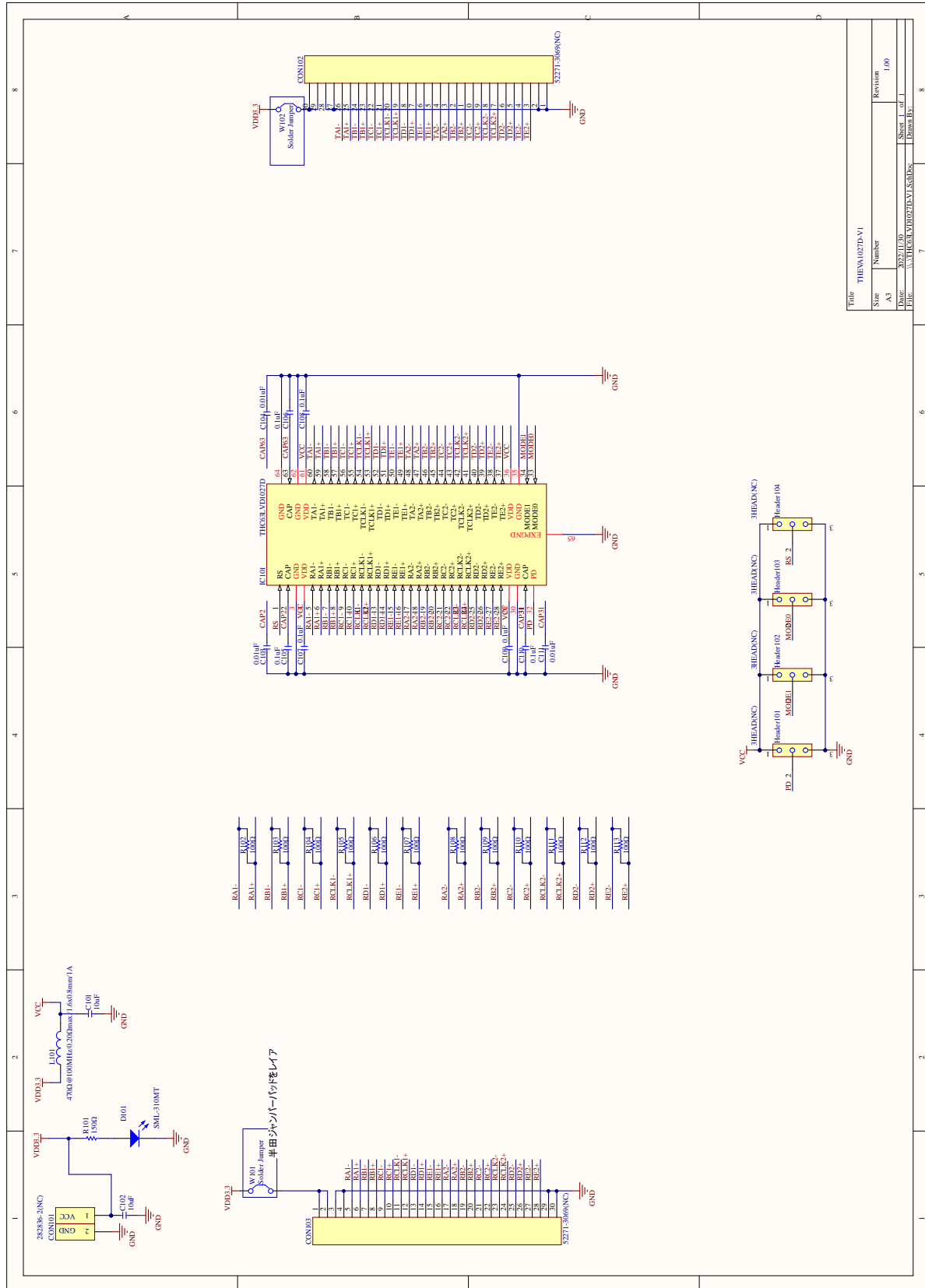
## 7. Function

This chapter shows function setting of THEVA1027D-V1.

Table 1 THEVA1027D-V1 function setting description

Silk	Symbol	Function																								
PD	PD	Power down function setting H : Normal Operation L : Power Down Mode (All outputs are Hi-Z)																								
RS	RS	LVDS swing mode. <table border="1" data-bbox="646 593 858 728"> <thead> <tr> <th>RS</th> <th>LVDS Swing</th> </tr> </thead> <tbody> <tr> <td>H</td> <td>350mV</td> </tr> <tr> <td>L</td> <td>200mV</td> </tr> </tbody> </table>	RS	LVDS Swing	H	350mV	L	200mV																		
RS	LVDS Swing																									
H	350mV																									
L	200mV																									
MODE1	MODE1	Pixel data mode select <table border="1" data-bbox="646 784 1236 985"> <thead> <tr> <th>MODE1</th> <th>MODE0</th> <th>RCLK2+/-</th> <th>Function</th> </tr> </thead> <tbody> <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> </tbody> </table>	MODE1	MODE0	RCLK2+/-	Function	L	L	Clock input	Dual-in / Dual -out	L	L	Hi-Z	Distribution	H	L	Hi-Z	Single-in / Dual -out	L	H	Clock input	Dual-in / Single-out	H	H	-	Reserved
MODE1	MODE0		RCLK2+/-	Function																						
L	L		Clock input	Dual-in / Dual -out																						
L	L		Hi-Z	Distribution																						
H	L		Hi-Z	Single-in / Dual -out																						
L	H	Clock input	Dual-in / Single-out																							
H	H	-	Reserved																							
MODE0	MODE0																									

## 8. Schematic



Title	THEVA1027D-V1
Size	A3
Number	100
Revision	1.00
Date	2022.11.09
File	\\THIN\THINE\THEVA1027D-V1\KallDoc\DrawBy
Sheet	1 of 1
Drawn By	

Figure 6 THEVA1027D-V1 Schematic

## 9. Bills of Materials

Table 2 THEVA1027D-V1 BOM

Comment	Description	Value	Designator	Quantity	LibRef	Footprint
Capacitor2012	2012	10uF	C101, C102	2	Cap	
Capacitor	1005	0.01uF	C103, C104, C111	3	Cap	
Capacitor	1005	0.1uF	C105, C106, C107, C108, C109, C110	6	Cap	
282836-2	282836-2	282836-2(NC)	CON101	1	PCON	
CN-FFC(1.0)30PD	CN-FFC(1.0)30PD	52271-3069(NC)	CON102, CON103	2	CN-FFC(1.0)30PD	
LED0	1608	SML-310MT	D101	1	LED0	LED-0
3HEAD	3HEAD	3HEAD(NC)	Header101, Header102, Header103, Header104	4	3HEAD	
THC63LVD1027D	TSSOP64		IC101	1	THC63LVD1027D	
Inductor	1608	470 $\Omega$ @ 100MHz/0.20 $\Omega$ max./1.6x0.8mm/1A	L101	1	Inductor	0402-A
Resistor	Resistor	150 $\Omega$	R101	1	Res1	AXIAL-0.3
Resistor	Resistor	100 $\Omega$	R102, R103, R104, R105, R106, R107, R108, R109, R110, R111, R112, R113	12	Res1	AXIAL-0.3
Jumper	Jumper Wire	Solder Jumper	W101, W102	2	Jumper	RAD-0.2

## 10. Set Items

Table 3 THEVA1027D-V1 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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