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## To Our Customers

Continuing its 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

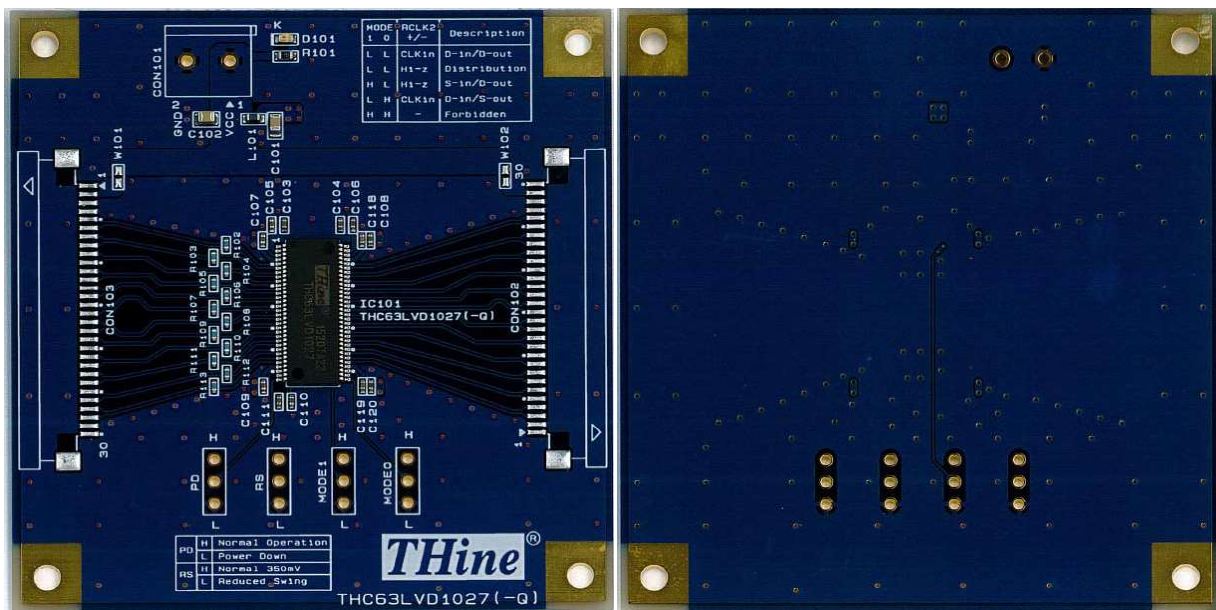


Figure 1 THEVA1027-V2

## 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.

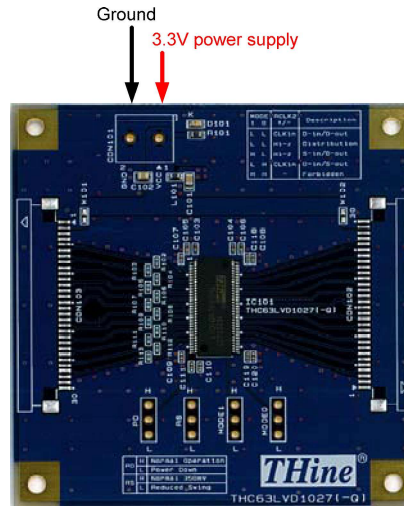


Figure 2 THEVA1027-V2 power supply for evaluation board

### 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.

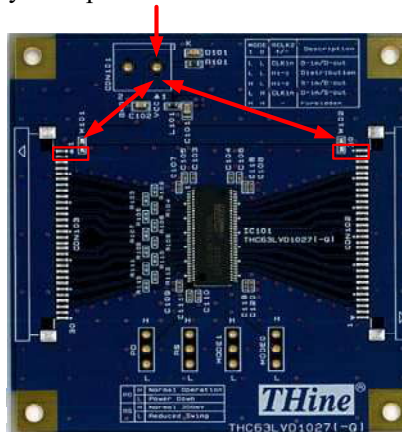


Figure 3 THEVA1027-V2 power supply from / to each connector

## 5. Function Setting

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

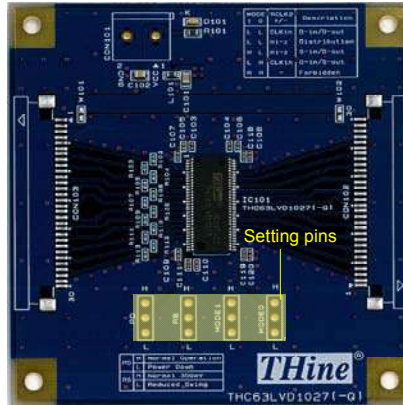
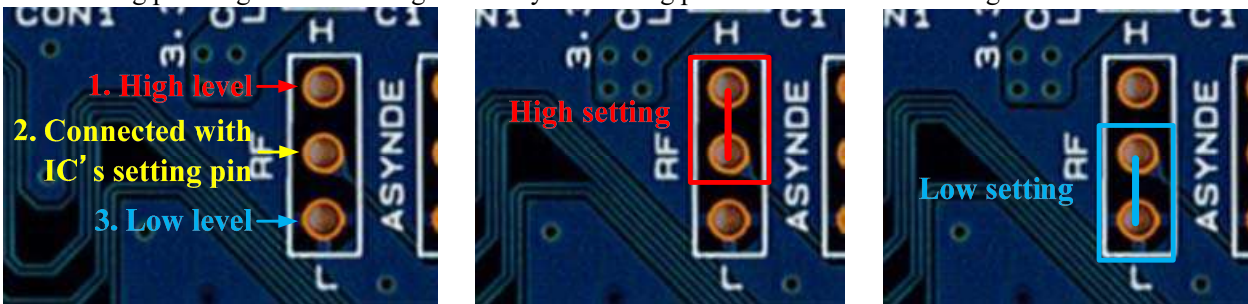


Figure 4 THEVA1027-V2 position of function setting pin

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.

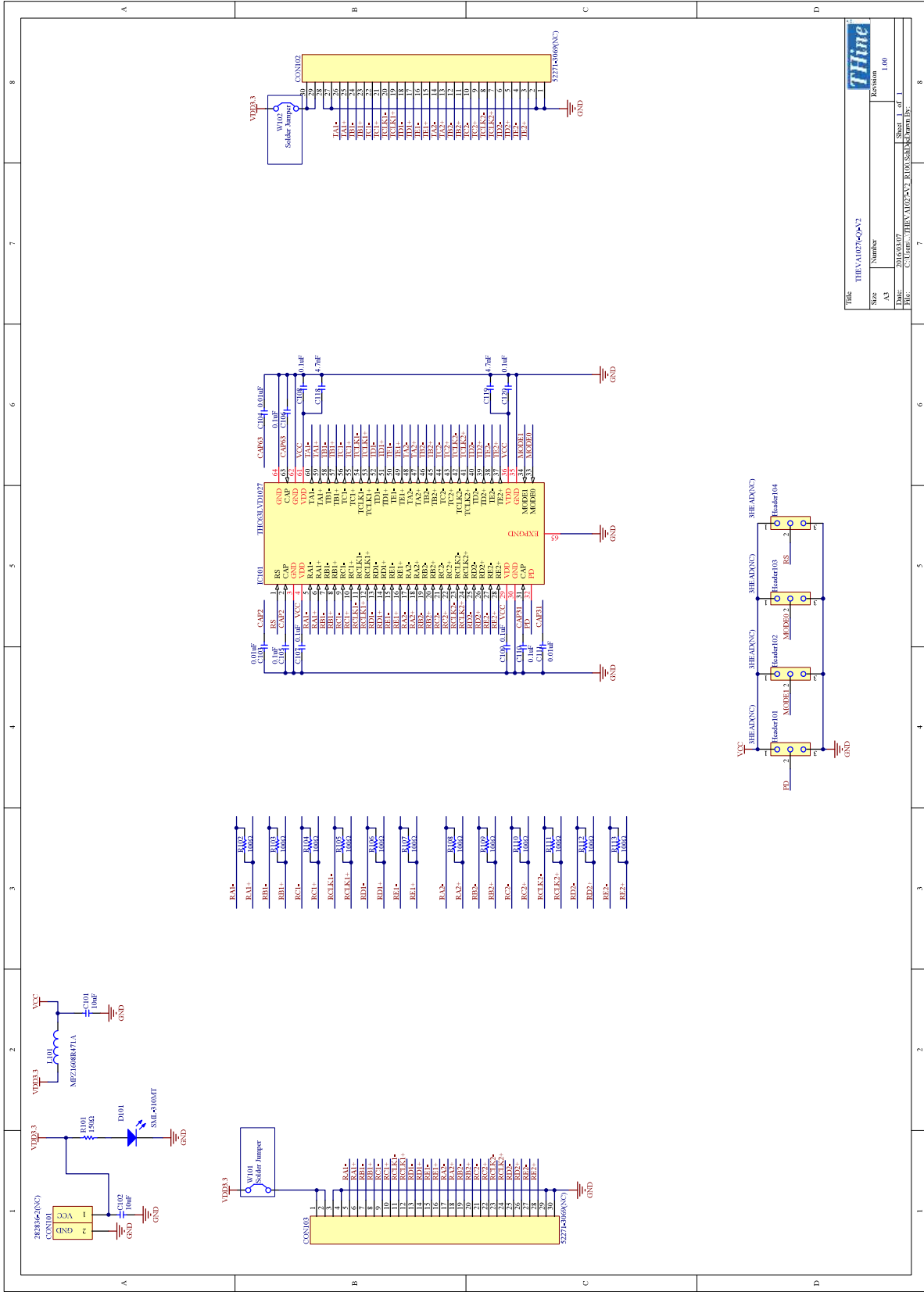
## 7. Function

This chapter shows function setting of THEVA1027-V2.

Table 1 THEVA1027-V2 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="644 595 858 730"> <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="644 786 1235 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		THEVA1027-QP-V2
Size	Number	Revision
A3		1.00
Date:	2016.03.07	Sheet 1 of 1
File:	C:\Users\THEVA1027\Documents\THAN0211	

Figure 6 THEVA1027-V2 Schematic

## 9. Bills of Materials

Table 2 THEVA1027-V2 BOM

Comment	Description	Value	Note	Designator	Qty
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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