# SPECIFICATION

## MODEL: BH-LV02-A01

## Rev: 1.1

Part Number:

Published Date:

| Approved by | | |
|---|---|---|
| Prepared by 编写 | Checked by 审核 | Approved by 批准 |
| | | |

Please return us one original approved by you with your signatures.
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## REVISION HISTORY

| Rev | DATE | PAGE | DESCRIPTION | AUTHOR |
|---|---|---|---|---|
| 1.0 | 17.08.28 | All | First issued | |
| 1.1 | 19.05.09 | 2,4,5 | Update Board Picture; Modify LVDS OUT definition<br>更换板卡示意图，用卧式插针，修正输出LVDS定义 | |
| | | | | |
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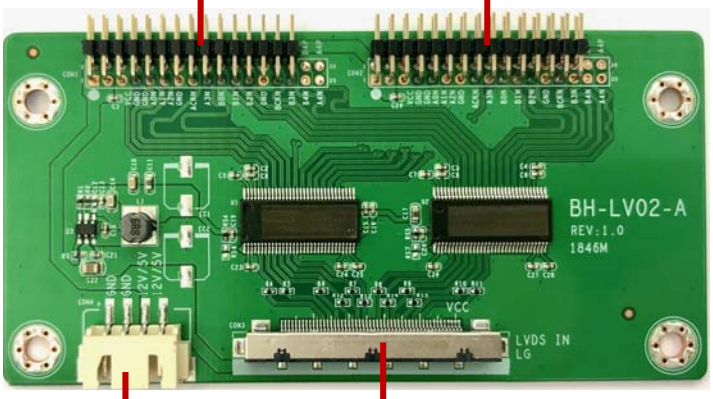
## 1. GENERAL DESCRIPTION （概述）

**BH-LV02-A01** is a LVDS repeater and splitter PCBA board which can support various pixel rate up to WUXGA resolution. It can help one mainboard drive two LVDS panel.

**BH-LV02-A01** 是一款具有LVDS信号延长和复制功能的转接板，可以将输入信号一分二，实现单主板点双LVDS屏，广泛应用于超薄款双面显示需求。

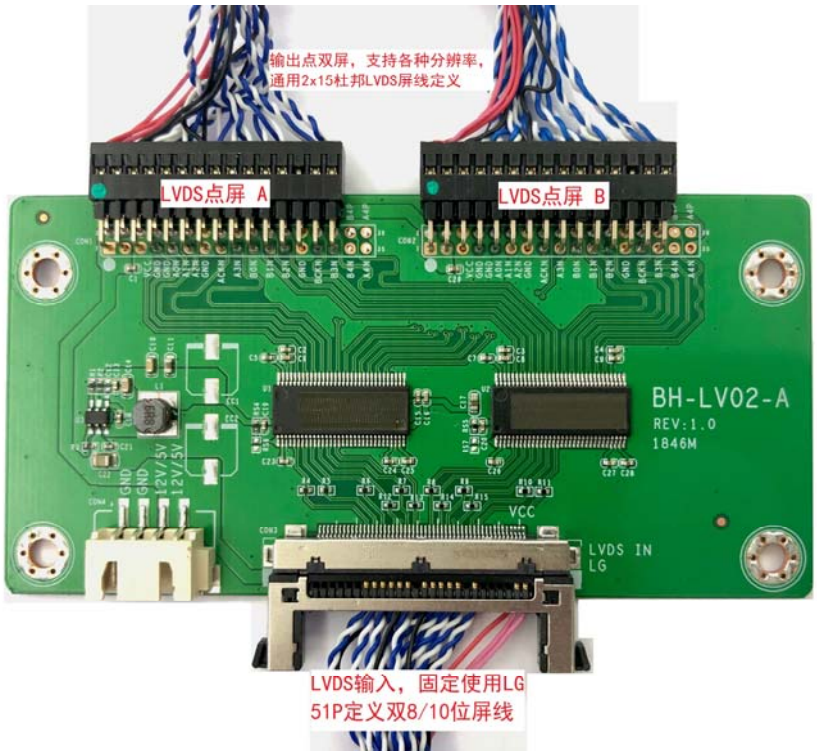
## 2. FUNCTION LAYOUT（产品外观）

| CON1: LVDS TO PANEL A | CON2: LVDS TO PANEL B |
|---|---|




| CON4: Power supply *opitional<br>电源输入 | CON3: LVDS Input<br>LG定义屏线输入 |
|---|---|

接线示意图：




## 3. FEATURES

| | |
|---|---|
| **COLOR DEPTH** | 8/10bit |
| **LVDS FORMAT** | JEIDA/VESA |
| **POWER REQUIREMENT** | 12V or 5V |
| **POWER CONSUMPTION** | ≤1W |

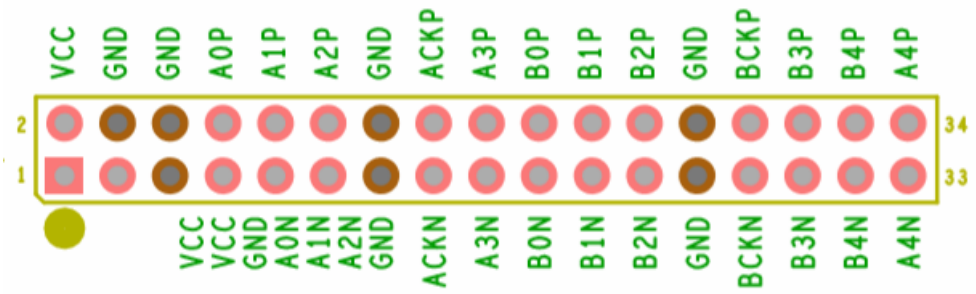
## 4. INTERFACE DIFINITION(接口定义)

### ◆ CON3 (51PIN/0.5): LVDS INPUT CONNECTOR(Same as LG)

- FI-RE51S-HF (manufactured by JAE)
- Mating Connector: FI-R51HL (JAE) or compatible

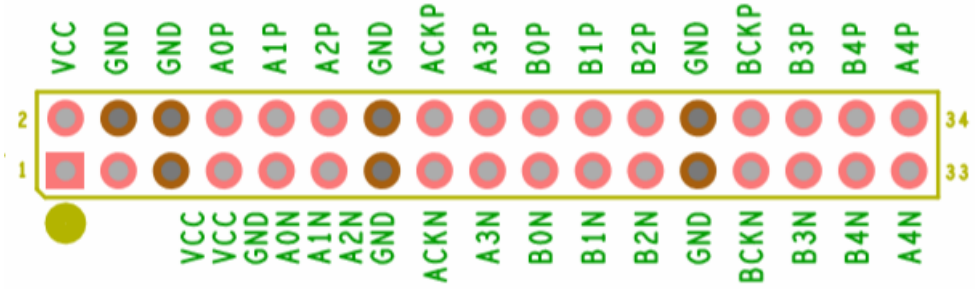
| NO. | SYMBOL | DESCRIPTION | NO. | SYMBOL | DESCRIPTION |
|---|---|---|---|---|---|
| 1 | NC | No Connection | 27 | NC | No Connection |
| 2 | NC | No Connection | 28 | RxO0N | LVDS In ODD 0- Signal |
| 3 | NC | No Connection | 29 | RxO0P | LVDS In ODD 0+ Signal |
| 4 | NC | No Connection | 30 | RxO1N | LVDS In ODD 1- Signal |
| 5 | NC | No Connection | 31 | RxO1P | LVDS In ODD 1+ Signal |
| 6 | NC | No Connection | 32 | RxO2N | LVDS In ODD 2- Signal |
| 7 | NC | No Connection | 33 | RxO2P | LVDS In ODD 2+ Signal |
| 8 | NC | No Connection | 34 | GND | Ground |
| 9 | NC | No Connection | 35 | RxOCN | LVDS In ODD Clock- Signal |
| 10 | NC | No Connection | 36 | RxOCP | LVDS In ODD Clock- Signal |
| 11 | GND | Ground | 37 | GND | Ground |
| 12 | RXE0N | LVDS In EVEN 0- Signal | 38 | RxO3N | LVDS In ODD 3- Signal |
| 13 | RXE0P | LVDS In EVEN 0+ Signal | 39 | RxO3P | LVDS In ODD 3+ Signal |
| 14 | RXE1N | LVDS In EVEN 1- Signal | 40 | NC | No Connection |
| 15 | RXE1P | LVDS In EVEN 1+ Signal | 41 | NC | No Connection |
| 16 | RXE2N | LVDS In EVEN 2- Signal | 42 | NC | No Connection |
| 17 | RXE2P | LVDS In EVEN 2+ Signal | 43 | NC | No Connection |
| 18 | GND | Ground | 44 | GND | Ground |
| 19 | RXECLKN | LVDS In EVEN Clock- Signal | 45 | GND | Ground |
| 20 | RXECLKP | LVDS In EVEN Clock+ Signal | 46 | GND | Ground |
| 21 | GND | Ground | 47 | NC | No Connection |
| 22 | RXE3N | LVDS In EVEN 3- Signal | 48 | VCC | +12V/5V Power Supply |
| 23 | RXE3P | LVDS In EVEN 3+ Signal | 49 | VCC | +12V/5V Power Supply |
| 24 | NC | No Connection | 50 | VCC | +12V/5V Power Supply |
| 25 | NC | No Connection | 51 | VCC | +12V/5V Power Supply |
| 26 | NC | No Connection | - | - | - |

### ◆ CON1 (2x17PIN/2.0): LVDS OUTPUT CONNECTOR




| NO. | SYMBOL | DESCRIPTION | NO. | SYMBOL | DESCRIPTION |
|---|---|---|---|---|---|
| 1 | VCC | +12V/5V for LCD | 2 | VCC | +12V/5V for LCD |
| 3 | VCC | +12V/5V for LCD | 4 | GND | Ground |
| 5 | GND | Ground | 6 | GND | Ground |
| 7 | TxE0N | LVDS Out EVEN 0- Signal | 8 | TxE0P | LVDS Out EVEN 0+ Signal |
| 9 | TxE1N | LVDS Out EVEN 1- Signal | 10 | TxE1P | LVDS Out EVEN 1+ Signal |
| 11 | TxE2N | LVDS Out EVEN 2- Signal | 12 | TxE2P | LVDS Out EVEN 2+ Signal |
| 13 | GND | Ground | 14 | GND | Ground |
| 15 | TXECLKN | LVDS Out EVEN Clock- Signal | 16 | TXECLKP | LVDS Out EVEN Clock+ Signal |
| 17 | TxE3N | LVDS Out EVEN 3- Signal | 18 | TxE3P | LVDS Out EVEN 3+ Signal |
| 19 | TxO0N | LVDS Out ODD 0- Signal | 20 | TxO0P | LVDS Out ODD 0+ Signal |
| 21 | TxO1N | LVDS Out ODD 1- Signal | 22 | TxO1P | LVDS Out ODD 1+ Signal |
| 23 | TxO2N | LVDS Out ODD 2- Signal | 24 | TxO2P | LVDS Out ODD 2+ Signal |
| 25 | GND | Ground | 26 | GND | Ground |
| 27 | TXOCN | LVDS Out ODD Clock- Signal | 28 | TXOCP | LVDS Out ODD Clock- Signal |
| 29 | TxO3N | LVDS Out ODD 3- Signal | 30 | TxO3P | LVDS Out ODD 3+ Signal |
| 31 | TxO4N | LVDS Out ODD 4- Signal | 32 | TxO4P | LVDS Out ODD 4+ Signal |
| 33 | TXE4N | LVDS Out EVEN 4- Signal | 34 | TxE4P | LVDS Out EVEN 4+ Signal |

### ◆ CON2 (2x17PIN/2.0): LVDS OUTPUT CONNECTOR




| NO. | SYMBOL | DESCRIPTION | NO. | SYMBOL | DESCRIPTION |
|---|---|---|---|---|---|
| 1 | VCC | +12V/5V for LCD | 2 | VCC | +12V/5V for LCD |
| 3 | VCC | +12V/5V for LCD | 4 | GND | Ground |
| 5 | GND | Ground | 6 | GND | Ground |

| | | | | | |
|---|---|---|---|---|---|
| 7 | TxE0N | LVDS Out EVEN 0- Signal | 8 | TxE0P | LVDS Out EVEN 0+ Signal |
| 9 | TxE1N | LVDS Out EVEN 1- Signal | 10 | TxE1P | LVDS Out EVEN 1+ Signal |
| 11 | TxE2N | LVDS Out EVEN 2- Signal | 12 | TxE2P | LVDS Out EVEN 2+ Signal |
| 13 | GND | Ground | 14 | GND | Ground |
| 15 | TXECLKN | LVDS Out EVEN Clock- Signal | 16 | TXECLKP | LVDS Out EVEN Clock+ Signal |
| 17 | TxE3N | LVDS Out EVEN 3- Signal | 18 | TXE3P | LVDS Out EVEN 3+ Signal |
| 19 | TxO0N | LVDS Out ODD 0- Signal | 20 | TxO0P | LVDS Out ODD 0+ Signal |
| 21 | TxO1N | LVDS Out ODD 1- Signal | 22 | TxO1P | LVDS Out ODD 1+ Signal |
| 23 | TxO2N | LVDS Out ODD 2- Signal | 24 | TxO2P | LVDS Out ODD 2+ Signal |
| 25 | GND | Ground | 26 | GND | Ground |
| 27 | TXOCN | LVDS Out ODD Clock- Signal | 28 | TXOCP | LVDS Out ODD Clock- Signal |
| 29 | TxO3N | LVDS Out ODD 3- Signal | 30 | TxO3P | LVDS Out ODD 3+ Signal |
| 31 | TxO4N | LVDS Out ODD 4- Signal | 32 | TxO4P | LVDS Out ODD 4+ Signal |
| 33 | TxE4N | LVDS Out EVEN 4- Signal | 34 | TxE4P | LVDS Out EVEN 4+ Signal |

◆ **CON4 (4PIN/2.54): POWER INPUT CONNECTOR**(*Note1 optional)

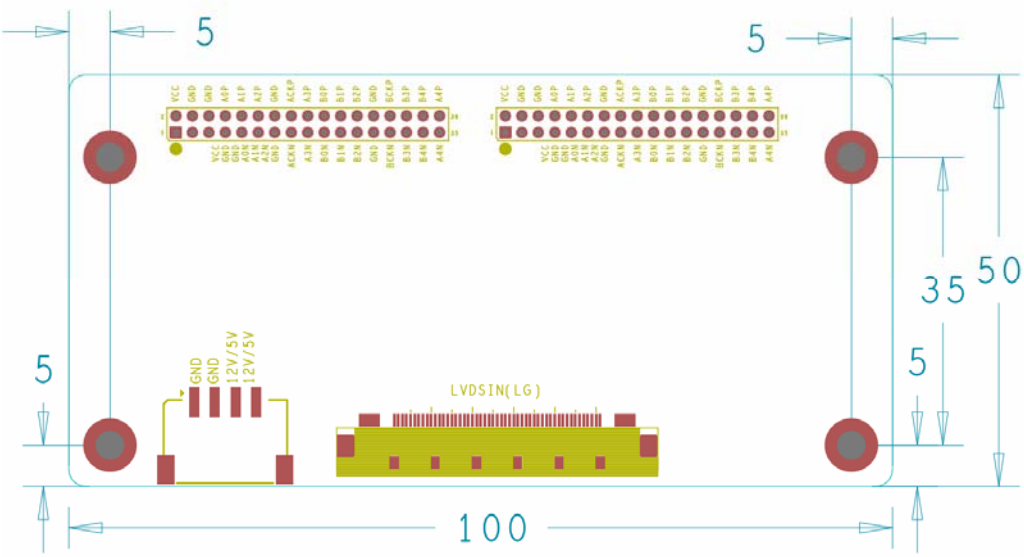
| NO. | SYMBOL | DESCRIPTION |
|---|---|---|
| 1 | GND | Ground |
| 2 | GND | |
| 3 | VIN | +5V or 12V power supply |
| 4 | VIN | +5V or 12V power supply |

Note1: **12V/5V power supply, optional.**

根据屏的供电要求选择12V或5V单独供电；点双屏在主板LVDS线供电不足时，需接电源板单独供电！

## 5. PCB Dimension 尺寸图

**The overall height of BH-LV02-A01 is 16 mm.**




# 6. CONFIGURATION & GENERAL PRECAUTIONS

## 使用环境和注意事项

- Storage temperature: -10~60°C.
- 存储温度： -10~60°C 。
- Operation temperature: 0~40°C.
- 工作温度：0~40°C。
- Operating: 10% to 90% (Non-condensing ，无冷凝)
- 工作湿度：10% ~ 90%
- Store: 5% to 95%
- 储存湿度: 5%~95%
- Operating: 10,000ft (max)
- 工作高度：10,000ft ( 最大)
- Store: 20,000ft (max)
- 储存高度：20,000ft ( 最大)
- Vibration ( 振动) 5-55Hz, 19.6m/s²(2G), 20minutes each along X, Y and Z axis.
- Protect the board from static electricity in case of damage to the IC.
- 请使板卡远离静电。
- Keep the board away from conductor when it is working.
- 请确保板卡工作时远离导体。
- Don't push or pull the connectors when the board is working.
- 板卡工作时请勿按压和扭曲。
- Don't press, distort or disassemble the board.
- 请勿拆解板卡。
- Clean the board with soft dry cloth when it's dirty.
- 如果板卡脏了，请用干布擦拭。
- Don't wire in the board to power supply before panel is correctly connected.
- 正确接好驱屏线前请勿接通电源。

- Inner wires of the whole set should match reasonable, we suggest the LVDS twisted pair wire between the main board and panel must be tied up well and try to use shielding wire. If it's possible, try to put on the magnetic belt ring on the wire which near the board terminal, each connected wire try to not directly cross the PCB board, especially cross over from the main chips, avoid affecting the whole set EMC performance.
- 机内需合理布线，芯片上方不建议走线，LVDS屏线必须使用双绞线并建议使用屏蔽网，同时将地环锁死在PCB孔位上。

# 7. PACKING, SHIPPING & STORING (包装、运输、贮存)

## 7.1、Packing (包装)

Product name, part number, supplier's logo, QC stamp, Pb-free display and date must be printed on the package case.

包装箱上有产品名称、型号、厂家标识、厂家质量部门的检验合格证、制造日期等。

## 7.2、Shipping (运输)

This product can be transported through land, sea or air. Measures should be taken for water and sun proof. Also, it should be handled with care.

适应于车、船、飞机运输，运输中应遮蓬、防晒、文明装卸。

## 7.3、Storing(贮存)

Please keep staying in the package case before using and keep away from hazardous gas, flammable or explosive substances and erosive chemical material. Avoid dramatic vibration or shock and strong magnetic field. The package cases should be racked 20cm above the ground and 50cm away from the wall, window, heat source or ventilation port. Generally, the storage term of this product is 2 years. All the products should be double checked after that time.

产品未使用时应存放在包装箱内，仓库内不允许有有害气体，易燃，易爆的产品及有腐蚀性的化学物品，并且无强烈的机械振动,冲击和强磁场作用,包装箱应垫离地至少20cm高,距离墙壁、热源、窗口或空气入口至少50cm，在本规定条件下的贮存期一般为2年，超过2年后应重新进行检验。