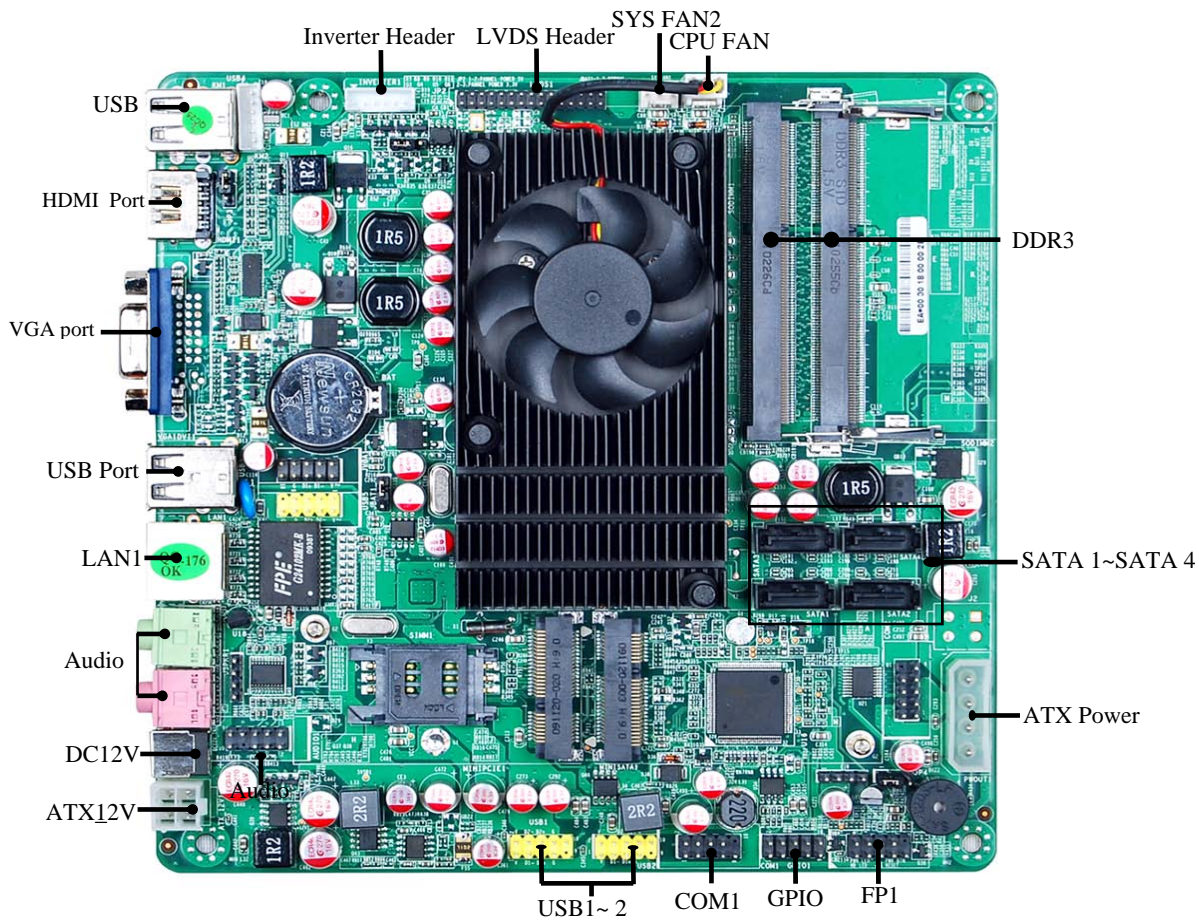


***TECHNICAL MANUAL***  
***Of***  
***AMD Hudson E350 Chipset***  
***Based***  
***for AMD Brazos APU Mini-ITX M/B***

**ITX-M35**

**Revision: 1.2**



PS2 /USB

HDMI Por

VGA

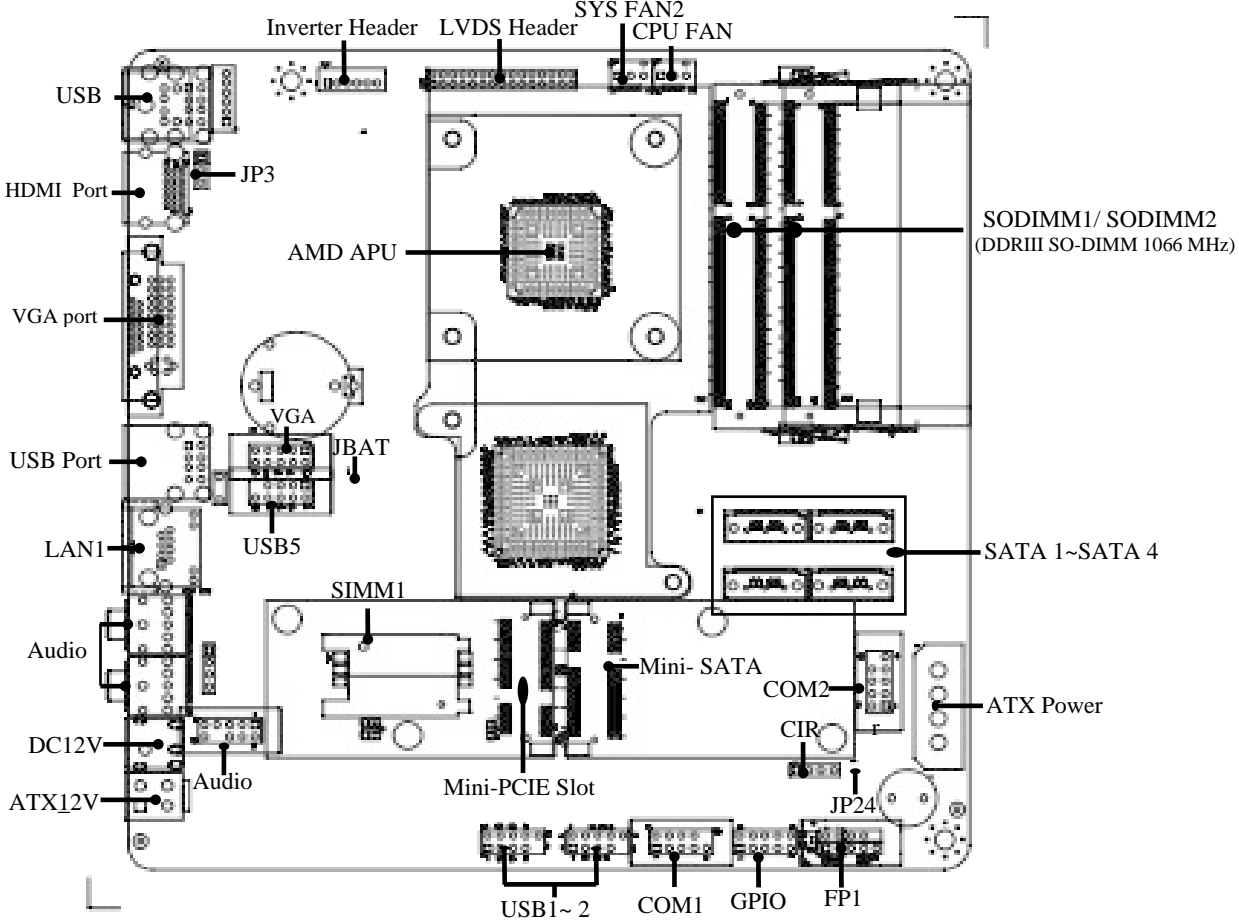
USB Port

LAN1

Audio

DC12V ATX12V

**Internal Motherboard Diagram for NF81 series:**



## 1-2 Specification

Spec	Description
<b>Design</b>	<ul style="list-style-type: none"> <li>● 6 layers Mini-ITX form factor ; PCB size: 17.0x17.0cm</li> </ul>
<b>Chipset</b>	<ul style="list-style-type: none"> <li>● Hudson E1 Chipset</li> </ul>
<b>APU</b>	<ul style="list-style-type: none"> <li>● AMD Brazos eOntario G- Series APU</li> </ul>
<b>Memory Socket</b>	<ul style="list-style-type: none"> <li>● 204-pin DDRIII SODIMM socket x2</li> <li>● Support DDRIII 1066 MHz DDRIII SODIMM expandable to 8GB</li> </ul>
<b>Expansion Slot</b>	<ul style="list-style-type: none"> <li>● Mini-PCIE x1 slot x1</li> <li>● Mini SATAIII slot x1</li> </ul>
<b>Integrated LAN</b>	<ul style="list-style-type: none"> <li>● Integrated one Realtek RTL8111E PCI-E Gigabit LAN chip</li> <li>● Support Fast Ethernet LAN function of providing 10Mb/100Mb/1000Mb Ethernet data transfer rate</li> </ul>
<b>Audio</b>	<ul style="list-style-type: none"> <li>● RETL ALC662 6-Channel HD Audio CODEC</li> <li>● Audio driver and utility included</li> </ul>
<b>BIOS</b>	<ul style="list-style-type: none"> <li>● AMI 16MB SPI Flash ROM</li> </ul>
<b>Multi I/O</b>	<ul style="list-style-type: none"> <li>● USB port connector x 3</li> <li>● HDMI connector x 1</li> <li>● VGA connector x1</li> <li>● USB port connector x 2 and USB header x3</li> <li>● RJ-45 LAN connector x1</li> <li>● Audio connector x1 (Line-out)</li> <li>● Audio connector x1 (MIC)</li> <li>● SATAII connector x 4</li> <li>● Front panel audio header x1</li> <li>● Serial port header x2</li> <li>● GPIO header x1</li> <li>● Front panel header x1</li> <li>● CIR header x1</li> <li>● JSPKR1 header x1</li> <li>● 24-bit Dual CH LVDS header x1</li> </ul>

中央处理器	采用 AMD E-350 1.6GHz 双核心处理器
芯片组	采用 AMD Hudson D1 芯片组
显卡	集成 ATI Radeon HD6310 显示核心
内存	2*204针双通道 DDR3 1333/800/667内存, 最大支持8GB
扩充插槽	2*PCIEx1插槽, 可接无线 WIFI 和 MSATA 接口
存储功能	2*Serial ATA2 3Gb/s 控制器 (其中一个与 MSATA 共列)
音频功能	Realtek ALC662 6声道高保真音频
网络功能	1*RTL8111DL 千兆网卡 支持网络唤醒
背板 I/O 接口	1*1*HDMI 接口 1*VGA 接口 (DVI 接口可选, 不能与 HDMI 接口同时使用) 2*USB 2.0接口 (可支持4个 USB 设备) 1*RJ-45网线接口 1*音频 I/O 接口 (Line Out) 绿色接口 1*音频 I/O 接口 (Mic 红色接口) 1*12V DC-JACK 输入
内置 I/O 接口	1*4p 电源座 (可做输入输出+12V 电源接口) 2*风扇连接器; 2* RS232 连接器 1*VGA 2*5 接口 2*15p 单24BIT LVDS 接口 (可选) 3*USB 2.0接口 1*GPIO 接口/1*CIR 接口 1*4功放接口, 可直接插喇叭输出 1*音频接头 (2*5抽8)
BIOS	AMI 8MB DPI Flash ROM
其它功能	ATM, 自动化, 医疗设备, 安全领域, 网络, POS, General Application, 游戏机, 运输行业
产品尺寸	Mini ITX Form Factor (17cmx17cm)

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## ***Jumper***

<b>Jumper</b>	<b>Name</b>	<b>Description</b>
JBAT1	CMOS RAM Clear Function Setting	3-pin Block
JP2	LVDS PVCC 5V/3.3V Select	3-pin Block
JP3	KB/MS/USB Power on Function Setting	3-pin Block

## ***Connectors***

<b>Connector</b>	<b>Name</b>	<b>Description</b>
HDMI1	High-Definition Multimedia Interface	19-pin Connector
VGA1	Video Graphic Attach Connector	15-pin Female
USB	USB Port Connector	9-pin Connector
LAN	RJ-45 LAN Connector	8-pin Connector
PHONE1	AUDIO Connector	3 Phone Jack
JMICK1	AUDIO Connector	3 Phone Jack

## ***Headers***

<b>Header</b>	<b>Name</b>	<b>Description</b>
AUDIO1	Front panel audio Headers	9-pin block
USB1, USB2 , USB3	USB Headers	9-pin Block
COM1_2	Serial Port Header	9-pin Block
J1	Front Panel Header (PWR LED/ HD LED/ /Power Button /Reset)	9-pin Block
CIR	CIR Header	4-pin Block
JSPKR1	Speaker Header	4-pin Block
LVDS1	LVDS Header	30-pin Block
INVERTER1	LVDS Inverter Connector	6-pin Block
GPIO1	GPIO header	10-pin Block

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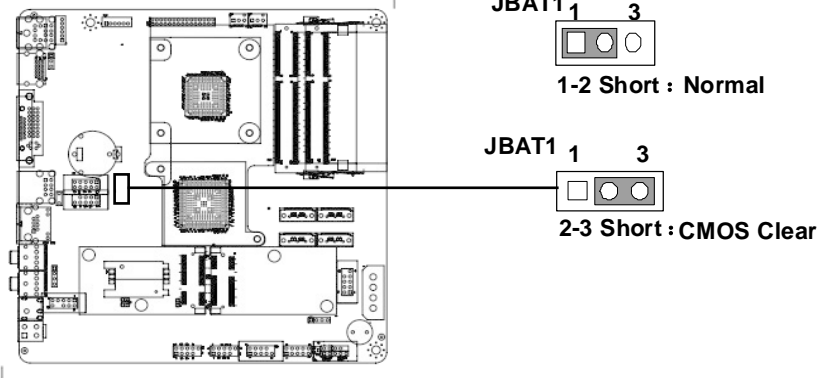
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# Chapter 2

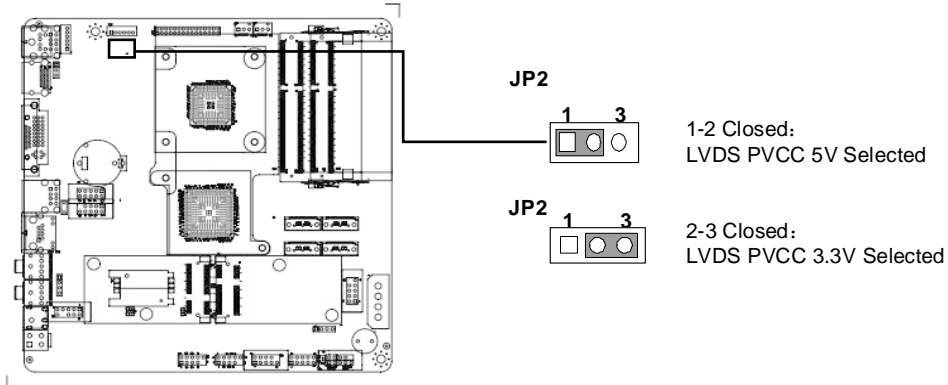
## Hardware Installation

### 2-1 Jumper Setting

#### (1) JBAT1(3-pin): Clear CMOS



#### (2) LVDS PVCC 5V / 3.3V Function setting (3-pin): JP2



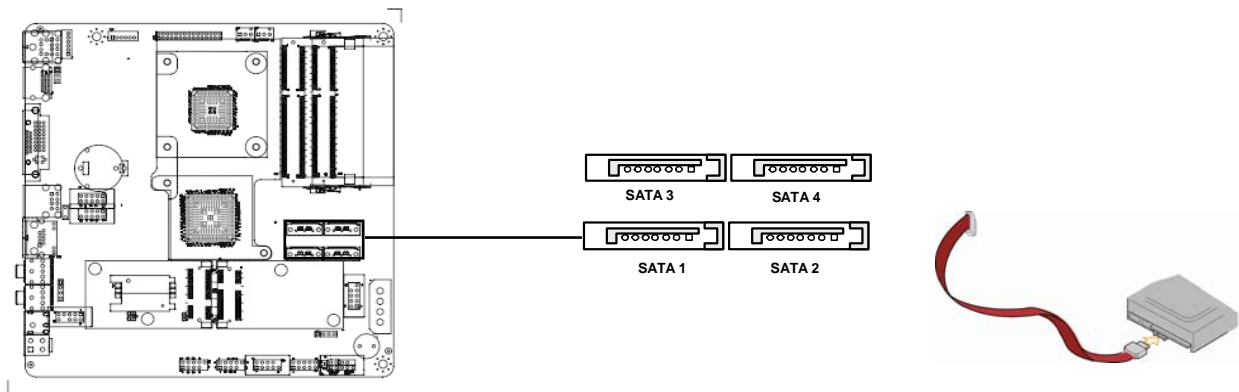
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## 2-2 Connectors and Headers

### (1) Serial-ATA/III Port connector: SATA1/SATA2/SATA3/SATA4 (NF81 Series)

These connectors support the provided SATA hard disk cable to connect the motherboard and SATA hard disk drives. SATA connectors from NC85 series are high-speed SATA 3Gb/s connectors. SATA connectors from NF81 series are high-speed SATA 6Gb/s connectors.



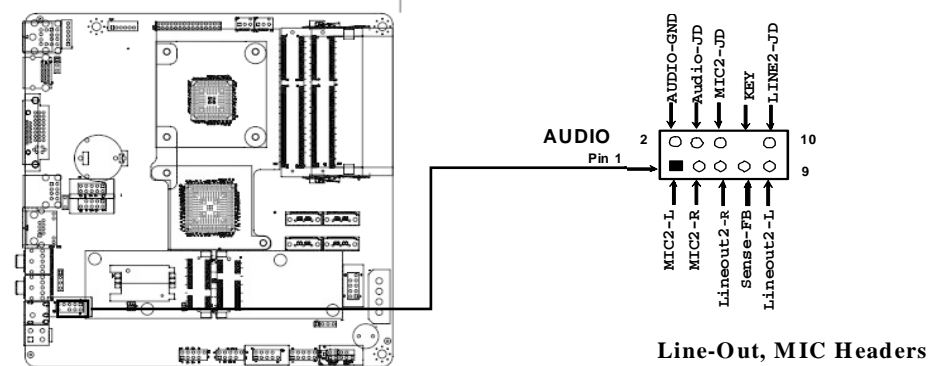


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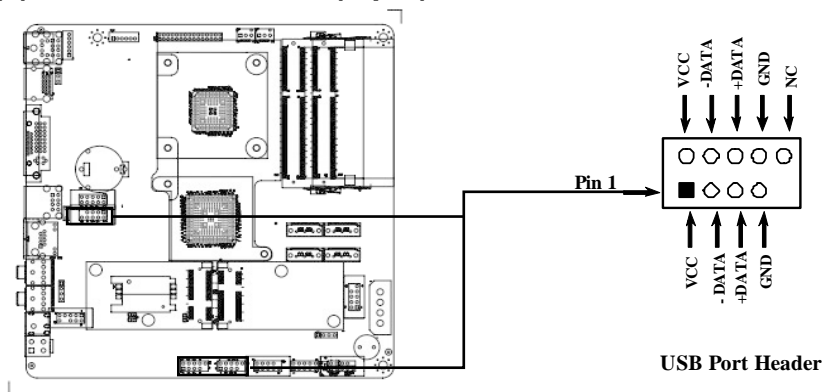
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## 2-2-2 Headers

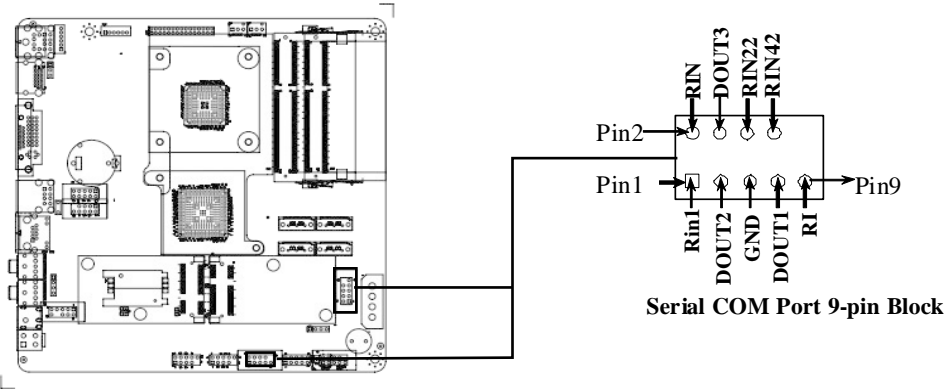
### (1) Front panel audio (9-pin): AUDIO1



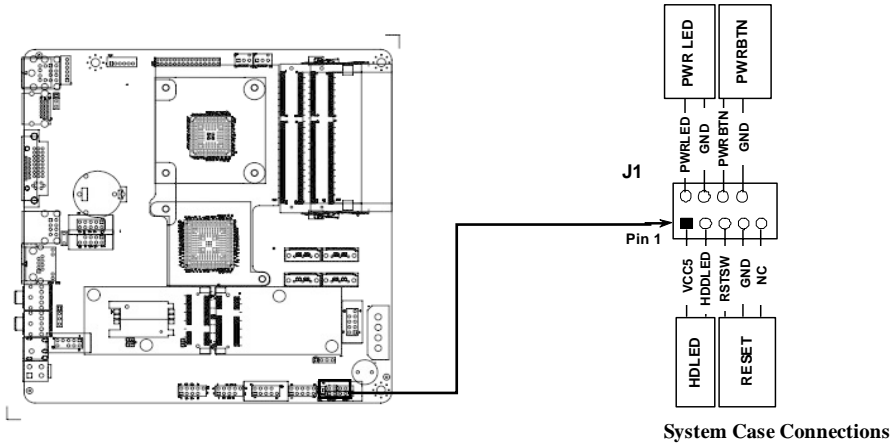
### (2) USB Port Headers (9-pin): USB1/USB2 /USB5



### (3) Serial Port Header: COM1/COM2



### (4) Front Panel Header: J1

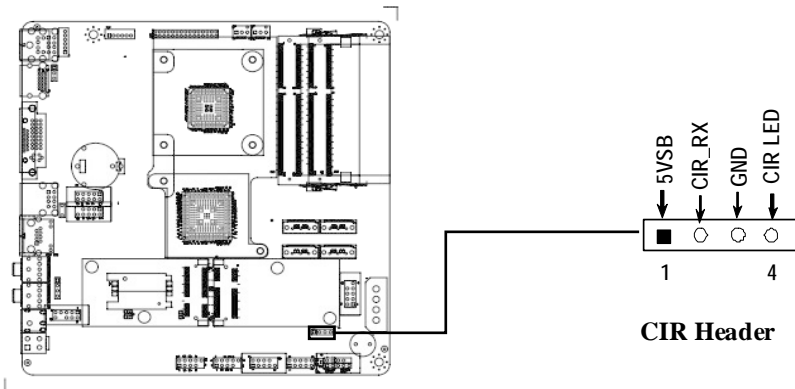


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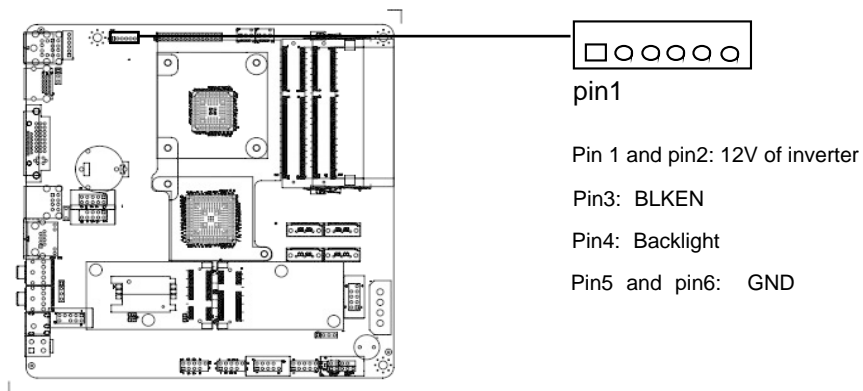
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### (5) CIR Header: CIR

This 4-pin CIR header is to receive remote control signal.



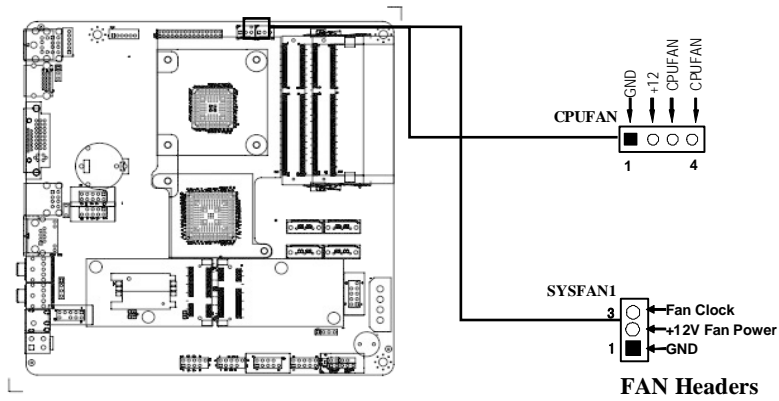
### (6) LVDS Inverter headers: INVERTER1



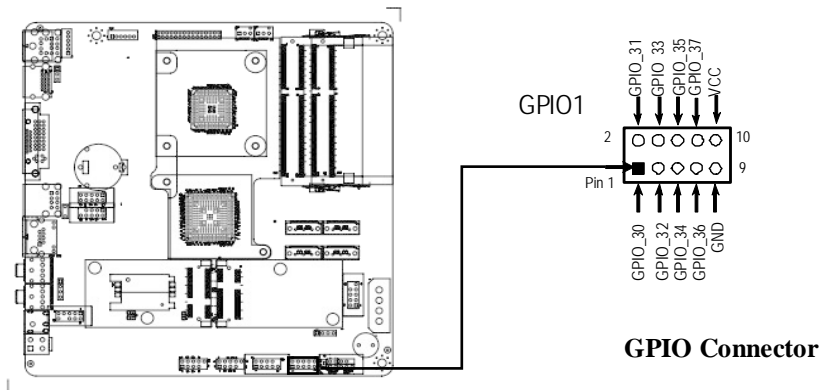
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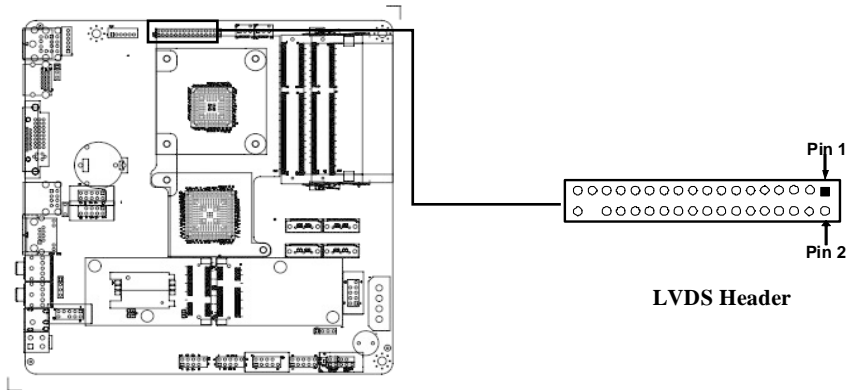
**(7) FAN Speed Headers: CPUFAN (4-pin), SYSFAN1/SYSFAN2 (3-pin)**



**(8) GPIO Header (10-pin): GPIO1**



## (9) LVDS Headers (30 Pin) : LVDS1



pin	Signal Name	pin	Signal Name
1	VCC	2	VCC
3	VCC	4	NC
5	GND	6	GND
7	RXO0-	8	RXO0+
9	RXO1-	10	RXO1+
11	RXO2-	12	RXO2+
13	GND	14	GND
15	RXOC-	16	RXOC+
17	RXO3-	18	RXO3+
19	RXE0-	20	RXE0+
21	RXE1-	22	RXE1+
23	RXE2-	24	RXE2+
25	GND	26	GND
27	RXEC-	28	RXEC+
29	RXE3-	30	RXE3+