

Circuit Description For OT207OV77201VB

1. The J1 is used to connect OT207OV77201VB to OT2067FIC81201VB. OT2067FIC81201VB provide 3.3V power supply to OT207OV77201VB and OT207OV77201VB output CCIR656 signal to OT2067FIC81201VB.
2. The resistor R1,R2,R3,R4,R5,R6,R7,R8,R9,R10 are series terminal for CCIR656 signal .
3. R11 and C7 are RC power on reset circuit for U2.
4. U1 is a LDO and output 2.8V to the DOVDD of U2. C1 is decoupling capacitors for DOVDD pin of U2. L4,C13 and C14 is filter network for DOVDD pin of U2.
L2,C11 and C12 is filter network for AVDD pin of U2.
5. Q1 is a LDO and output 1.8V to supply the digital core of U2. L4,C13 and C14 is filter network for DOVDD pin of U2.
6. U2 is a CMOS sensor . U2 capture the image and sent out CCIR656 signal to DSP.C5 and C6 are decoupling capacitors for reference voltage pin of U2.
7. Y1 is a 24MHz Oscillator and provide clock source to PLL of U2.

Circuit Description For OT207IRLED1VB

1. The J1 is used to connect OT207IRLED1VB to OT2067FIC81201VB. OT2067FIC81201VB provide 5.0V power supply to OT207IRLED1VB and OT2067FIC81201VB give a IR_ON signal to OT207IRLED1VB for control the power of IR LED. The IR_ON signal is Active HIGH.
2. OT207IRLED1VB general CDS_IN signal to OT2067FIC81201VB while the light of environment is dark,the CDS_IN signal is Active HIGH.
3. The Q1 and U1 are control circuit for power of IR LED. When the IR_ON is coming ,the Q1 is become saturation and the the pin number 4 of U1 is High. The U1 will be ON ,then IR LED get 5V power from OT2067FIC81201VB.
4. R1 is a CDS. Q3 and Q5 are P-Channel Enhancement Mode Field Effect Transistor.Q2 and Q4 are Micro-Power Voltage Detectors.
The threshold of Q2 and Q4 are 2.93V.
While the light of environment is dark,the resistance of R1 become to 1M ohm.At this time the Q3 and Q5 will be ON,then voltage of the Q2 and Q4 's pin 3 is larger than 2.93V. The Q2 and Q4 output HIGH.
5. The AL-513IR-850-45C are Infrared LED lamps.

Circuit Description For OT2067FIC81201VB

1. Power supply

The whole power source is from a 5V/2A power adapter through J7. D2 is a Transient Voltage Suppressor for 5V power supply.

L8 is a EMI Suppression Filters. C85 and C86 are filter for 5V power supply.

U9 is a DC-DC converter for system power supply. Switching frequency of U9 is 1.25 MHz and output 3.3V/1.2 A.

U12 is a DC-DC converter for digital core power of U3 . U12 is 1 MHz fixed frequency PWM operation and output 1.8V/300mA.

2. MPU

U3 is an integrated System-on-a-Chip platform for the application of the multimedia processing system.The FIC8120 is equipped with a media Codec to accelerate video processing and a comprehensive set of system and peripheral functions

to be useful in a variety of multimedia processing applications.

Y3 is a Crystal resonator of 22.1184MHz for PLL clock of U3 .

Y1 is a Crystal resonator of 30MHz for USB PHY clock of U3 .R1 is reference resistor for USB HOST.

Q3 is a Reset IC for system.

C8,C64,C67,C68 are bypass Capacitor for PLL1 and PLL2 of U3.

J4 and J10 is double PCB layout and they are USB2.0 HOST interface for USB.J4 and J10 connect a USB wireless WLAN module with a calbe in this design.

J5 is used to connect OT2067FIC81201VB to OT207OV77201VB .OT2067FIC81201VB provide 3.3V power supply to OT207OV77201VB

and OT207OV77201VB output CCIR656 signal to OT2067FIC81201VB.U3 sets the register value of U2 on OT207OV77201VB through I2C bus.

J3 is GPIO function and is used to connect OT207IRLED1VB to OT2067FIC81201VB.

OT2067FIC81201VB provide 5.0V power supply to OT207IRLED1VB and control the power of IR LED. The IR_ON signal is Active HIGH.

J2 is JTAG interface for debug U3.

3. Audio, RTC

U1 is an AudioCODEC. U10 is an Audio Amplifier. MIC1 is an Electret condenser microphone.

The Audio signal is amplified and sent to U1 which converses it to digital signal. Through I2S interface, the digital signal is sent to U3.

U3 sets the register value of U1 through I2C bus.

U8 is a realtime clock IC. BT1 is a Li-battery. When the system is out of power, BT1 can supply the power to U8.

U3 sets the register value of U8 through I2C bus. U3 reads the system time and date from U8.

Q1, Q2 and R22 compose the charging circuit for BT1.

4.Network

U7 is an Ethernet PHY and connects U3 through MII interface and U3 has a MAC to control PHY.

Y2 is a Crystal resonator of 25MHz for PLL clock of U7.

U13 is a transformer for network.

J6 is RJ45 connector.

C18 and C75 is decoupling capacitors for DVDD of U7.

R22, R25, R26 & C84 compose pop smith circuit for EMI issue.

L5 and C22 is filter network for AVDD pin of U7.

5.Memory

U4 and U11 is SDRAM for ARM and DSP.

U2 is NOR FLASH for saving Firmware and system seting.

6.Other

U5 is a EEPROM which used to save the MAC adress and other system seting for product.

