IR Sender Receiver [ESP-12]

USB Power

USB_B_Micro
J1
VBUS 1
D+ 3
D− 2
ID 4
Shield
GND 6 5
GND

USB_B
J2
VBUS 1
D+ 3
D− 2
Shield
GND 5 4
GND
+5Volt

D1 1N4448
U1 LM2937-3v3
+5Volt
VI 1 — VO 3 — +3.3Volt
GND 2
C1 0.47uF
GND
C2 100uF
GND
D2 PWR LED (red)
R1 220R
GND
GND

IR sender

IO4
IO5
R8 220R
R9 220R
D5 RED
GND
U3 4N35
1 6
2 5
4
GND
R10 470k
R11 1k
GND GND
+5Volt
+5Volt
R7 10R
D4 IR-LED
D3 IR-LED
Q1 IRL540
GND

ESP8266 (ESP-12)

+3.3Volt
R2 10K
R3 10K
ESP-12E U2
RESET 1 RST   VCC 8
3 EN   GPIO0 18
ADC   GPIO1/TXD 22
       GPIO2 17
       GPIO3/RXD 21
       GPIO4 19
       GPIO5 20
9 CS0   GPIO12 6
10 MISO GPIO13 7
11 GPIO9 GPIO14 5
12 GPIO10 GPIO15 16
13 MOSI GPIO16
14 SCLK
15 GND
+3.3Volt
C3 0.1uF
GND
GND
R4 10K
GND
IO0
TxD
RxD
IO4
IO5
IO12
IO13
IO14

Temp.Sensor Extention

IO13
GND
R12 4k7
+3.3Volt
1
2
3
4
J5
DS18B20

Keyboard Extention

ADC 1
2
GND 3
+3.3Volt 4
J7
Keyboard

IR receiver

Out
GND
VCC
VS1838B
J6
3 2 1
IO12
D6 GREEN
R13 220R
IO14
+3.3Volt
GND

Switches

+3.3Volt
SW1 RESET
R5 10K
GND
RESET
+3.3Volt
SW2 FLASH
R6 10K
GND
IO0

MH1 MountingHole
MH2 MountingHole
MH3 MountingHole
MH4 MountingHole

Programmer port
J4
5
RxD 4
TxD 3
GND 2
+3.3Volt 1
Programmer

SOT-223 (DCY) Package
3 Pins
Front View
IN 1
GND 2
OUT 3
GND 4

2 D
G 1
3 S
1 2 3

+ ANODE — CATHODE
+ ANODE — CATHODE
+ ANODE — CATHODE

USB B BOTTOM
D+ 3 4 GND
D− 2 1 VBUS

Micro-B
5 4 3 2 1
1: VCC
2: RX
3: TX
4: NC
5: GND

Mode	GPIO15	GPIO0	GPIO2
UART	Low	Low	High
Flash Boot	Low	High	High

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