LINE FOLLOWER ROBOT

HUST-DCE

IR

IC1A LM358 — 5V, C5 0.1uF
- LED1_1, LED2_1
- R1 330R, R2 10k, VR1 10K
- R3 330R, LED1 — IR_1

IC1B LM358 — 5V, C6 0.1uF
- LED1_2, LED2_2
- R4 330R, R5 10k, VR2 10K
- R6 330R, LED2 — IR_2

IC2A LM358 — 5V, C7 0.1uF
- LED1_3, LED2_3
- R7 330R, R8 10k, VR3 10K
- R9 330R, LED3 — IR_3

IC2B LM358 — 5V, C8 0.1uF
- LED1_4, LED2_4
- R10 330R, R11 10k, VR4 10K
- R12 330R, LED4 — IR_4

IC3A LM358 — 5V, C9 0.1uF
- LED1_5, LED2_5
- R13 330R, R14 10k, VR5 10K
- R16 330R, LED5 — IR_5

GND

J8_1 Header 8
8	RST
7	ADC
6	EN
5	GPIO16
4	IR_1
3	IR_2
2	IR_3
1	3.3V

J8_2 Header 8
1	TXD
2	RXD
3	IR_4
4	IR_5
5	GPIO0
6	GPIO2
7	GPIO15
8	GND

ESP

J5_1 Header 5
1	RST
2	TXD
3	RXD
4	3.3V
5	GND

GND

SW_Boot SW102A
R17 10k
R18 10k
3.3V

BT_Rst Button-2pin
RST
R16 10k — 3.3V
R19 10k — 3.3V

ESP8266v12 / ESP8266-V12
1	RST	GPIO1/TXD0	22	TXD
2	ADC/TOUT	GPIO3/RXD0	21	RXD
3	EN	GPIO5	20	IR_4
4	GPIO16/WAKE	GPIO4	19	IR_5
5	GPIO14	GPIO0	18	GPIO0
6	GPIO12	GPIO2	17	GPIO2
7	GPIO13/CTS0	GPIO15/RTS0	16	GPIO15
8	VCC	GND	15	

CS MISO GPIO9 GPIO10 MOSI SCLK
9 10 11 12 13 14

ADC — R19 10k GPIO16
IR_1, IR_2, IR_3
3.3V
R20 10k
GND

J6_1 Header 6

5V SW1 SW102A GND

ICL293D / L293
1	1,2EN	VCC1	16	
2	1A	4A	15	
3	1Y	4Y	14	OUT1_M2
4	PGND	PGND	13	
5	PGND	PGND	12	
6	2Y	3Y	11	OUT2_M2
7	2A	3A	10	
8	VCC2	3,4EN	9	

OUT1_M1
OUT2_M1
GND
Vin_1

Jump

Jump_M1 Header 2
| 1 | OUT1_M1 |
| 2 | OUT2_M1 |

Jump_M2 Header 2
| 1 | OUT2_M2 |
| 2 | OUT1_M2 |

Power Supply

Jump_Power Header 2
SW_Power SW102A
Vin_1

IC5V LM7805
- 1 IN, 3 OUT, 2 GND
- C1 470uF, C2 1uF
- R25 330R, LED_Power
- 5V, GND

U1 LM1117-3.3V
- 3 IN, 2 OUT, 1 GND
- 5V — 3.3V
- C3 470uF, C4 1uF
- GND

Comment	Description	Designator	Footprint	LibRef	Quantity
Button-2pin		BT_Rst	Button2pin	Button-2pin	1
470uF	Use for 0.1/0.22/0.33/0.47/1/2.2/3.3/4.7/10/22 uF Capacitor Through Hole	C1, C3	CAP_xUF_50V_TH_5x11	CAP_ALU/CHE_0.1uF_50V_POL_5x11	2
1uF	Use for 0.1/0.22/0.33/0.47/1/2.2/3.3/4.7/10/22 uF Capacitor Through Hole	C2, C4	CAP_xUF_50V_TH_5x11	CAP_ALU/CHE_0.1uF_50V_POL_5x11	2
0.1uF	Ceramic Capacitor 1nF/50V (+-20% TH)/(+10%SMD)	C5, C6, C7, C8, C9	CAP_10x_TH	CAP_CER_0.1uF_50V_NPOL_1	5
ESP8266-V12	ESP8266-V12	ESP8266v12	ESP-8266 V12	ESP8266-V12	1
LM358	Low-Power Dual Operational Amplifier	IC1, IC2, IC3	DIP8/W0.3	LM358	3
LM7805	On ap +, from + 5 to + 24VDC	IC5V	QTO-220	LM78xx	1
L293		ICL293D	L293	L293	1
Header 5		J5_1	HEADER x5(2)	Header 5	1
Header 6		J6_1	HEADER FEMALE x6	Header 6	1
Header 8		J8_1, J8_2	HEADER FEMALE x8	Header 8	2
Header 2		Jump_M1, Jump_M2	HEADER x2 (2)	Header 2	2
Header 2		Jump_Power	KF128 2P 5.08mm	Header 2	1
LED_RED	LED Red	LED1_1, LED1_2, LED1_3, LED1_4, LED1_5	LED5R5mm	LED_RED	5
LED_GREEN	LED Green	LED2_1, LED2_2, LED2_3, LED2_4, LED2_5	LED3G3mm	LED_GREEN	5
LED_RED	LED Red	LED_Power, LED1, LED2, LED3, LED4, LED5	LED3R3mm	LED_RED	6
330R	Resistor 1/4W	R1, R3, R4, R6, R7, R9, R10, R12, R13, R16	R1/8W	R	10
10k	Resistor 1/4W	R2, R5, R8, R11, R14, R16, R17, R18, R19, R20	R1/8W	R	10
330R	Resistor through hole 1/4W	R25	CR25S	Resistor 1/4W	1
SW102A	Switch 102 on Broad	SW_Boot, SW_Power, SW1	SW102	SW102A	3
LM1117-3.3V	800mA Low-Dropout Linear Regulator	U1	TO220-123	LM1117	1
10K	WH148	VR1, VR2, VR3, VR4, VR5	Trimmer 3262	Variable Resistor	5