

A

A

ESP32 RELAY VERSION 1.0

PAGE	INDEX
1	COVER PAGE
2	BLOCK DIAGRAM
3	VOLTAGE SOURCE
4	MICRO CONTROLLER

PAGE	INDEX
5	
6	
7	
8	

DESIGN CONSIDERATIONS

DESIGN NOTE:
Functions of this block

DESIGN NOTE:
Calculation equations

DESIGN NOTE:
Calculations when choosing
this component

Title: COVER PAGE		Author: QUOC BAO
Approved: CONFIDENTIAL		*
Size: A4	Project: ESP32S RELAY	Modified Date: 12/3/2025
Date: 12/4/2025	7:42:59 AM	Sheet 1 of 3
		Revision: 1.0
		SW Version: 24.1.2.44



1

2

3

4

A

A

B

B

C

C

D

D

1

2

3

4

Title: BLOCK DIAGRAM		Author: QUOC BAO
Approved: CONFIDENTIAL		*
Size: A4	Project: ESP32S RELAY	Modified Date: 12/4/2025
Date: 12/4/2025	7:42:59 AM	Revision: 1.0 Sheet 2 of 3 SW Version: 24.1.2.44



A

A

B

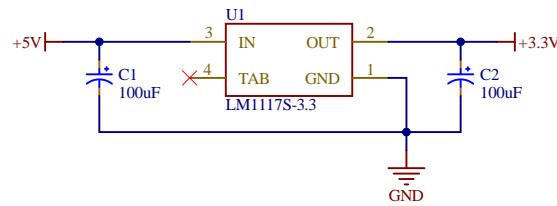
B

C

C

D

D


VOLTAGE SOURCE

Size: A4 Project: ESP32S RELAY

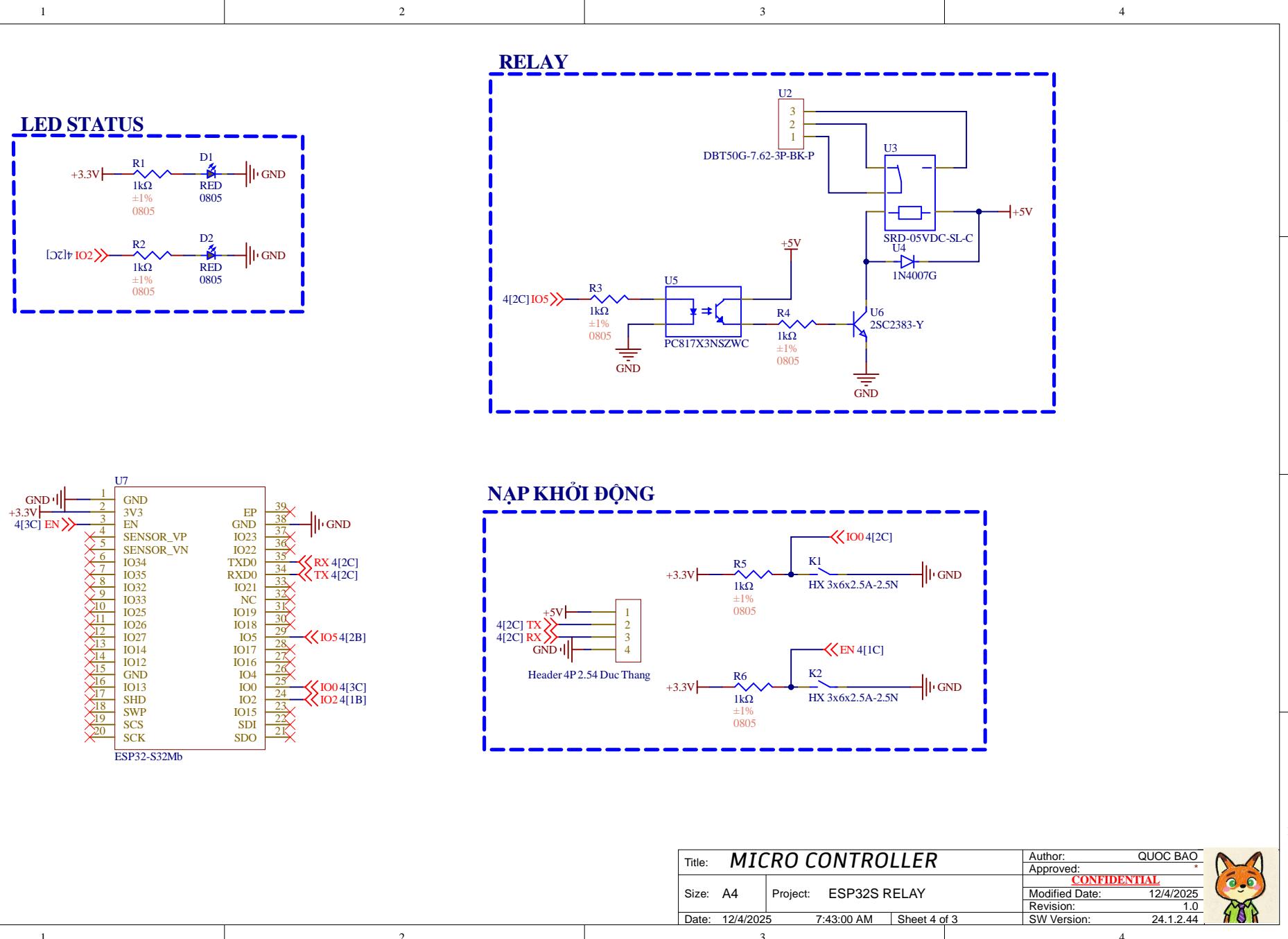
Date: 12/4/2025 7:43:00 AM Sheet 3 of 4

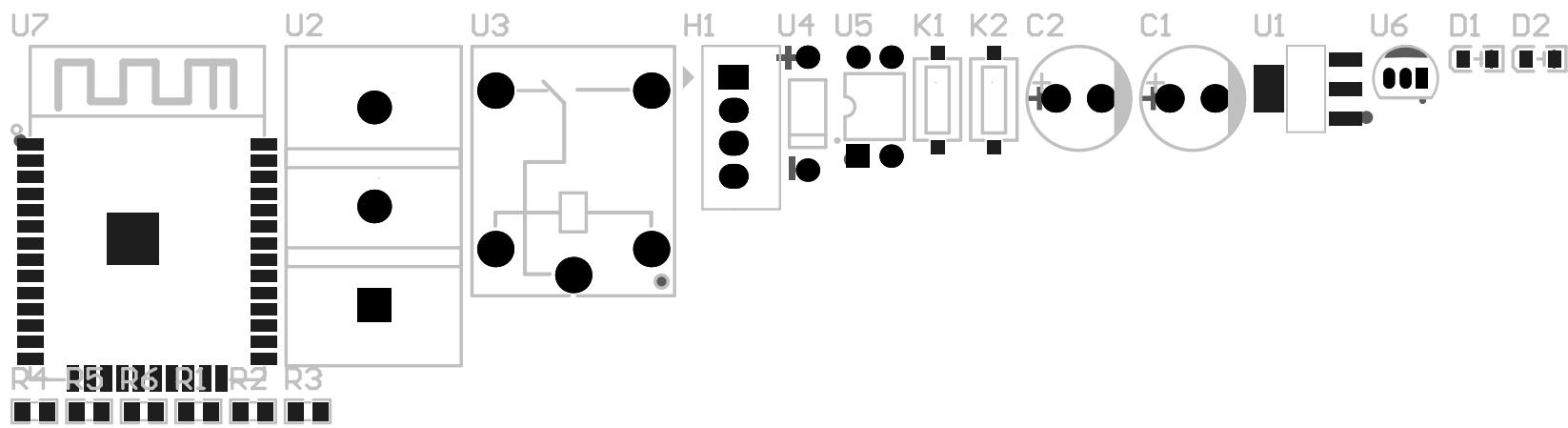
 Author: QUOC BAO
 Approved: *
CONFIDENTIAL

 Modified Date: 12/3/2025
 Revision: 1.0

SW Version: 24.1.2.44







Comment	Description	Designator	Footprint	LibRef	Quantity
100uF	3.5mm 100uF 50V ±20% Through Hole,D8xL11.5mm Aluminum Electrolytic Capacitors RoHS	C1, C2	C_TH_8x11.5	C_100uF_8x11.5_TH	2
RED	25mcd~40mcd Water Clear -40°C~+85°C 624nm Red 120° 60mW 0402 LED Indication - Discrete ROHS	D1, D2	LED0805	D0805_RED	2
Header 4P 2.54 Duc Thang	Cắm	H1	Header DT 4P_2.54	Header 4P 2.54 Duc Thang	1
HX 3x6x2.5A-2.5N	Without Bracket 6mm 12V 3.6mm Square Button No SPST 50mA SMD,6x3mm Tactile Switches RoHS	K1, K2	HX 3x6x2.5A-2.5N	HX 3x6x2.5A-2.5N	2
1kΩ	62.5mW Thick Film Resistor 50V ±1% ±200ppm/°C 10Ω 0402 Chip Resistor - Surface Mount ROHS	R1, R2, R3, R4, R5, R6	R0805	R0805_1kΩ_±1%	6
LM1117S-3.3	75dB@(120Hz) 1A Fixed 3.3V Positive 12V SOT-223-3 Voltage Regulators - Linear, Low Drop Out (LDO) Regulators ROHS	U1	AMS1117-3.3	LM1117S-3.3	1
DBT50G-7.62-3P-BK-P	1x3P Side Mount With Cover Plate 7.62mm 1 3 -40°C~+105°C 20A Black 12-22 Straight Pin Through Hole,P=7.62mm Barrier Blocks RoHS	U2	DBT50G-7.62-3P-BK-P	DBT50G-7.62-3P-BK-P	1
SRD-05VDC-SL-C	250V@AC 5V 15A Through Hole,19.2x15.6mm Power Relays RoHS	U3	SRD-05VDC-SL-C	SRD-05VDC-SL-C	1
1N4007G	30A 1kV 930mV@1A 1A DO-41 Single Diodes RoHS	U4	1N4007G	1N4007G	1
PC817X3NSZWC	50mA 100mV@20mA,1mA 80V 6V DC DIP-4 Transistor, Photovoltaic Output Optoisolators RoHS	U5	PC817X3NSZWC	PC817X3NSZWC	1
2SC2383-Y	900mW 160V 1A NPN TO-92LM Single Bipolar Transistors RoHS	U6	2SC2383-Y	2SC2383-Y	1
ESP32-S32Mb	2.4GHz ESP32 Chip On-board PCB Antenna - 90dBm RF Transceiver Modules and Modems RoHS	U7	ESP32-S32Mb	ESP32-S32Mb	1