C65 Keyboard Connector — SV2

Pin	Signal
1	C65_ROW8
2	C65_REST
3	C65_COL8
4	C65_ROW7
5	C65_ROW6
6	C65_ROW5
7	C65_ROW4
8	C65_ROW3
9	C65_ROW2
10	C65_ROW1
11	C65_ROW0
12	C65_COL7
13	C65_COL6
14	C65_COL5
15	C65_COL4
16	C65_COL3
17	C65_COL2
18	C65_COL1
19	C65_COL0
20	C65_K1
21	C65_K2
22	PWR_LED
23	FDD_LED
24	POWER_LED
25	FLOPPY_LED

R5 100R POWER_LED
R6 100R FLOPPY_LED

C64 Keyb Con — SV1

Pin	Signal
1	
2	/REST
3	ROW3
4	ROW6
5	ROW5
6	ROW4
7	ROW7
8	ROW2
9	ROW1
10	ROW0
11	COL0
12	COL6
13	COL5
14	COL4
15	COL3
16	COL2
17	COL1
18	COL7

GND +3V3

U1A STM32F407IET6__FI__

U1B STM32F407IET6__FI__

G1 CR2032H
L1
R3 47R
C17 100nF C18 1µF
C20 100nF C19 1µF

Q1 8Mhz
R4 220R
C21 33pF
C22 33pF
C30 2,2µF
C29 2,2µF

R39 10k
R38 10k

NRST
R36 100k
C31 100nF
JP1

SV8 / USB USB-B-G-B
1 VCC
2 DM USB_D_N
3 DP USB_D_P
4 GND

R28 10k R29 10k
R31 510R R30 510R
BOOT0 BOOT1
GND

Joystick1 X3
R1 1k J1_UP X3-1
R23 1k J1_DOWN X3-2
R24 1k J1_LEFT X3-3
R25 1k J1_RIGHT X3-4
POT1_Y X3-5
R27 1k J1_BUTTON X3-6
R26 47R X3-7
POT1_X X3-8
X3-9
GND

Joystick2 X5
R2 1k J2_UP X5-1
R7 1k J2_DOWN X5-2
R8 1k J2_LEFT X5-3
R9 1k J2_RIGHT X5-4
POT2_Y X5-5
R21 1k J2_BUTTON X5-6
R22 47R X5-7
POT2_X X5-8
X5-9
GND

SV4
R32 47R
PA14 R33 47R
PA13 R34 47R
NRST R35 47R

C1 100nF C2 100nF C3 100nF C4 100nF C5 100nF C6 100nF C7 100nF C8 100nF C9 100nF C10 100nF C11 100nF C12 100nF C13 100nF C14 100nF C15 1µF C16 1µF

+3V3 GND

TITLE: c65Keyb
Document Number:
REV:
Date: 6/05/2022 10:40 AM
Sheet: 1/2

Nexys 4 Input

SV5

+3V3   +3V3

12	11	
10	9	
JB4	8	7	JB10
GND JB3	6	5	JB9 GND
JB2	4	3	JB8
JB1	2	1	JB7

SV6

+3V3   +3V3

12	11
10	9
JA4	8	7	JA10
GND JA3	6	5	JA9 GND
JA2	4	3	JA8
JA1	2	1	JA7

SV7

+3V3   +3V3

12	11
10	9
XADC4_P	8	7	XADC4_N
GND XADC3_P	6	5	XADC3_N GND
XADC2_P	4	3	XADC2_N
XADC1_P	2	1	XADC1_N

S1
VCC   +3V3

J2
3
2
1
B1
GND

X4-3
X4-2
X4-1

MKDS_5/3-6,35

GND

C32
100nF

RESET   SW1

+3V3
R37
3k3

GND   GND   GND

Output Driver

U2
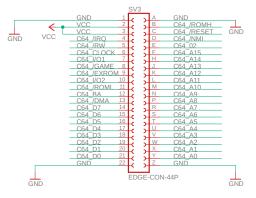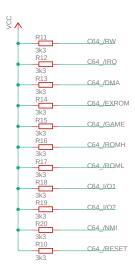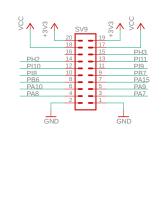| C64_A0 | 3 | A1 | B1 | 21 | ST_A0 |
C64_A1	4	A2	B2	20	ST_A1
C64_A2	5	A3	B3	19	ST_A2
C64_A3	6	A4	B4	18	ST_A3
C64_A4	7	A5	B5	17	ST_A4
C64_A5	8	A6	B6	16	ST_A5
C64_A6	9	A7	B7	15	ST_A6
C64_A7	10	A8	B8	14	ST_A7

/R_W_A0-7   2   DIR
             22   OE

1   VCCA   VCCB   23   +3V3
13   GND2   VCCB1   24
12   GND1   GND   11

VCC
GND   GND
744245

U3
C64_A8	3	A1	B1	21	ST_A8
C64_A9	4	A2	B2	20	ST_A9
C64_A10	5	A3	B3	19	ST_A10
C64_A11	6	A4	B4	18	ST_A11
C64_A12	7	A5	B5	17	ST_A12
C64_A13	8	A6	B6	16	ST_A13
C64_A14	9	A7	B7	15	ST_A14
C64_A15	10	A8	B8	14	ST_A15

/R_W_A8-15   2   DIR
              22   OE

1   VCCA   VCCB   23   +3V3
13   GND2   VCCB1   24
12   GND1   GND   11

VCC
GND   GND
744245

U4
C64_D0	3	A1	B1	21	ST_D0
C64_D1	4	A2	B2	20	ST_D1
C64_D2	5	A3	B3	19	ST_D2
C64_D3	6	A4	B4	18	ST_D3
C64_D4	7	A5	B5	17	ST_D4
C64_D5	8	A6	B6	16	ST_D5
C64_D6	9	A7	B7	15	ST_D6
C64_D7	10	A8	B8	14	ST_D7

/R_W_D0-D7   2   DIR
              22   OE

1   VCCA   VCCB   23   +3V3
13   GND2   VCCB1   24
12   GND1   GND   11

VCC
GND   GND
744245

VCC   +3V3

| C23 | C24 | C25 | C26 | C27 | C28 |
| 100nF | 100nF | 100nF | 100nF | 100nF | 100nF |

GND

Expansion Slot

SV3
GND	1	A	GND
VCC	2	B	C64_/ROMH
VCC	3	C	C64_/RESET GND
C64_/IRQ	4	D	C64_/NMI
C64_/RW	5	E	C64_O2
C64_CLOCK	6	F	C64_A15
C64_I/O1	7	H	C64_A14
C64_/GAME	8	J	C64_A13
C64_/EXROM	9	K	C64_A12
C64_I/O2	10	L	C64_A11
C64_/ROMI	11	M	C64_A10
C64_BA	12	N	C64_A9
C64_/DMA	13	P	C64_A8
C64_D7	14	R	C64_A7
C64_D6	15	S	C64_A6
C64_D5	16	T	C64_A5
C64_D4	17	U	C64_A4
C64_D3	18	V	C64_A3
C64_D2	19	W	C64_A2
C64_D1	20	X	C64_A1
C64_D0	21	Y	C64_A0
GND	22	Z	GND

GND   VCC
GND

EDGE-CON-44P

GND   GND

VCC

R11	3k3	C64_/RW
R12	3k3	C64_/IRQ
R13	3k3	C64_/DMA
R14	3k3	C64_/EXROM
R15	3k3	C64_/GAME
R16	3k3	C64_/ROMH
R17	3k3	C64_/ROML
R18	3k3	C64_I/O1
R19	3k3	C64_I/O2
R20	3k3	C64_/NMI
R10	3k3	C64_/RESET

VCC   +3V3   +3V3   VCC

SV9
	20	19	
	18	17	
	16	15	PH3
PH2	14	13	PI11
PI10	12	11	PI9
PI8	10	9	PP7
PB6	8	7	PA15
PA10	6	5	PA9
PA8	4	3	PA7
	2	1	

GND   GND