FPC

10 9 8 7 6 5 4 3 2 1	

U4
GND VSYS GND D_P D_N GND

R3 R9
1K 1K
QSPI_SS_N
RUN

POWER

VSYS

C1 2.2uF
C2 2.2uF
C3 2.2uF
GND

U1
VIN VOUT
GND
EN BP
RT9013-33

3V3
C4 1uF
C5 100nF
GND

FLASH

GND
C6 1uF

U2
QSPI_SS_N 1 CS VCC 8 3V3
QSPI_SD1 2 DO HOLD 7 QSPI_SD3
QSPI_SD2 3 WP CLK 6 QSPI_SCLK
GND 4 GND DI 5 QSPI_SD0
W25Q16JVSSIQ

W
aveshare
RP2040-Tiny

GND
C7 22nF
C8 100nF
1v1 3V3

D_P D_N
R1 27R
R2 27R

GND
C9 2.2uF
C10 2.2uF
C11 2.2uF
3V3

U3
GND
IOVDD GPIO0
GPIO0 GPIO1
GPIO1 GPIO2
GPIO2 GPIO3
GPIO3 GPIO4
GPIO4 GPIO5
GPIO5 GPIO6
GPIO6 GPIO7
GPIO7 IOVDD
IOVDD GPIO8
GPIO8 GPIO9
GPIO9 GPIO10
GPIO10 GPIO11
GPIO11

RP2040

QSPI_SS_N QSPI_SD1 QSPI_SD2 QSPI_SD0 QSPI_SCLK QSPI_SD3 DVDD IOVDD USB_VDD USB_DP USB_DM VREG_VOUT VREG_VIN ADC_AVDD

IOVDD
GPIO29/ADC3
GPIO28/ADC2
GPIO27/ADC1
GPIO26/ADC0
GPIO25
GPIO24
GPIO23
GPIO22
IOVDD
GPIO21
GPIO20
GPIO19
GPIO18

IOVDD
GPIO29
GPIO28
GPIO27
GPIO26
GPIO25
GPIO24
GPIO23
GPIO22
IOVDD
GPIO21
GPIO20
GPIO19
GPIO18

C14 100nF
3V3
C16 100nF
GND

GPIO12 GPIO13 GPIO14 GPIO15 TESTEN XIN XOUT IOVDD DVDD SWCLK SWDIO RUN GPIO16 GPIO17

C13 100nF
3V3
C15 100nF
GND

GND
C20 100nF
3V3
C18 100nF
1v1
GND

XOUT R4 1K
GND
XIN

C17 15pF
X1 12Mhz
C19 15pF
GND

RGB-LED

3V3
R5 10K

3V3
C12 100nF
GND

L1
VDD DIN
DOUT VSS
WS2812B

GPIO16
GND

SWITH-RES

GPIO24 R11 NC
GPIO25 R12 NC
GND

PINOUT

P1
1		GPIO0
2		GPIO1
3		GPIO2
4		GPIO3
5		GPIO4
6		GPIO5
7		GPIO6
8		GPIO7
9		GPIO8
10		GPIO9
11		GPIO10
12		GPIO11
13		GPIO12
14		GPIO13
15		GPIO14
16		GPIO15
17		GPIO26
18	R6 450R	GPIO27
19	R7 450R	GPIO28
20	R8 450R	GPIO29
21		3V3
22		GND
23		VSYS

Header 23

Comment	Description	Designator	Footprint	LibRef	Quantity
2.2uF	Capacitor	C1, C2, C3, C9, C10, C11	C0201	Cap	6
1uF	Capacitor	C4, C6	C0201	Cap	2
100nF	Capacitor	C5, C8, C12, C13, C14, C15, C16, C18, C20	C0201	Cap	9
22nF	Capacitor	C7	C0201	Cap	1
15pF	Capacitor	C17, C19	C0201	Cap	2
WS2812B		L1	0807 RGB	WS2812B	1
waveshare_logo		logo1	WS_LOGO_(300MIL)	waveshare_logo	1
Header 23		P1	RP2040-Zero	Header 23	1
27R	Resistor	R1, R2	0201	Res1	2
1K	Resistor	R3, R4, R9	0201	Res1	3
10K	Resistor	R5	0201	Res1	1
450R	Resistor	R6, R7, R8	0201	Res1	3
NC	Resistor	R11, R12	R0402	Res1	2
RT9013-33		U1	SOT-23-5	RT9193-33	1
W25Q16JVSSIQ	W25Q32	U2	USON8	W25Q32	1
RP2040		U3	QFN56-0.4	RP2040	1
Header 10	Header, 10-Pin	U4	FPC-SMD_8P-P0.50_HDGC_0.5K-1.5-8PWB	Header 10	1
12Mhz		X1	CRYSTAL-SMD_2520	XTAL4	1