2316/2332/2364 ROM Replacement

Bypass Caps +1V1 +3V3 Bypass Caps

C5 0.1uF C4 0.1uF C3 4.7uF C6 0.1uF C7 4.7uF C8 0.1uF C9 0.1uF C10 0.1uF C11 0.1uF C12 0.1uF

GND GND

+3V3 33R R4 PWR_FLAG GND

C15 4.7uF GND

+1V1 PWR_FLAG

C16 4.7uF C17 4.7uF L1 3.3u GND

GND

Raspberry Pi RP2350A QFN-60

DVDD 39 DVDD 23 DVDD 6 QSPI_IOVDD 54 IOVDD 45 IOVDD 38 IOVDD 30 IOVDD 20 IOVDD 11 IOVDD 1 USB_OTP_VDD 53 ADC_AVDD 44

VREG_AVDD 46
VREG_VIN 49
VREG_FB 50
VREG_LX 48
VREG_PGND 47

QSPI_SS 60 → QSPI_SS
QSPI_SD0 57 → QSPI_SD0
QSPI_SD1 59 → QSPI_SD1
QSPI_SD2 58 → QSPI_SD2
QSPI_SD3 55 → QSPI_SD3
QSPI_SCLK 56 → QSPI_SCLK

XIN 21
XOUT 22

RUN 26

SWCLK 24
SWD 25

USB_DP 52 → D+
USB_DM 51 → D−

GPIO0 2 → D4
GPIO1 4 → D5
GPIO2 5 → D6
GPIO3 7 → D7
GPIO4 8 → D1
GPIO5 9 → D0
GPIO6 10 → D0
GPIO7 12 → D2
GPIO8 3 → CX2
GPIO9 13 → CX1
GPIO10 14 → CS1_OE
GPIO11 15 → A11_CE
GPIO12 16 → A12_CS
GPIO13 17 → A10
GPIO14 19 → A9
GPIO15 18 → A8
GPIO16 27 → A7
GPIO17 28 → A6
GPIO18 29 → A5
GPIO19 31 → A3
GPIO20 32 → A4
GPIO21 33 → A0
GPIO22 34 → A2
GPIO23 35 → A1
GPIO24 36 → SEL_B
GPIO25 37 → SEL_A
GPIO26_ADC0 40 → SEL_C
GPIO27_ADC1 41 → SEL_D
GPIO28_ADC2 42 → VBUS_DET
GPIO29_ADC3 43 → LED0

GND 61
U1 RP2350_60QFN
GND

15pF C18 GND GND
Y1
15pF C19 1K R6
GND +3V3

R1 10K
RUN → RUN
SWCLK 24
SWDIO 25

Flash

+3V3
QSPI_SS R3 10K
1K R2 BOOT → BOOT
QSPI_SCLK 6 → CLK
QSPI_SD0 5 → DI/IO0
QSPI_SD1 2 → DO/IO1
QSPI_SD2 3 → WP/IO2
QSPI_SD3 7 → HOLD/RESET/IO3
CS 1 VCC 8
U5 W25Q16JVSS
GND 4
GND

Jumpers and programming

J2
SEL_A 1 2
SEL_B 3 4
BOOT 5 6 SWCLK
RUN 7 8 SWDIO
SEL_D
SEL_C
GND

J1
+5V 1
GND 2

Run time select jumpers
J3
CX1 1
CX2 2

2332/2364 SOCKET
U2 24

D0 9 → D0 VCC
D1 10 → D1 A0 8 → A0
D2 11 → D2 A1 7 → A1
D3 13 → D3 A2 6 → A2
D4 14 → D4 A3 5 → A3
D5 16 → D5 A4 4 → A4
D6 17 → D6 A5 3 → A5
D7 → D7 A6 2 → A6
2364 A7 1 → A7
A8 23 → A8
A9 22 → A9
A10 19 → A10
A11 18 → A11_CE
A12 21 → A12_CS
GND 12 CS 20 → CS1_OE
GND PWR_FLAG

VHOSTPWR_FLAG

Power LED
+3V3
R5 1K D1 LED_Small LED0
C13 4.7uF
GND
Extra power cap

Voltage Regulation
+5V U3 AP2112K-3.3 +3V3
VIN 1 VOUT 5
EN 3 NC 4
GND 2
C1 4.7uF C2 4.7uF
GND

J6 USB_B_Micro
VBUS
VBUS 1
D+ 3
D− 2
ID 4
Shield GND 5 6
GND

USBLC6-2P6 U4
D+ → D+
D− → D−
VBUS

+5V D2 1N5819WS VHOST
PWR_FLAG R7 10K
D3 1N5819WS VBUS
R8 10K → VBUS_DET
GND