CaniotBox V3.1

KLINE Tranceiver

VCC_3V3
R12 10k
KLINE_RX
12Vout+
R2 1k
U6 MC33660BEFR2
VBB CEN
NC VDD
GND RX
ISO TX
KLINE_NSLP
KLINE_RX
Kline_TX
C21 100nF
Kline
C20 100nF
C19 100nF
D3 BZT52C27S_C699159
GND

CAN0 Tranceiver

VCC_3V3
CAN_TX
CAN_RX
U5 SN65HVD230DR
D GND
R VCC
CANH
CANL
VREF
RS
CAN Module 2
L1
ACT45B-510-2P-TL003
CAN-H1
CAN-L1
C4 100nF
R15 15k
D1 PESD2CAN,215
GND

CAN1 Tranceiver

V5_work
CANFD_TX
CANFD_RX
R8 15k
U10 MCP2542FD-E/SN
TXD STBY
VSS CANH
VDD CANL
RXD VIO
CAN Module
L2
ACT45B-510-2P-TL003
CAN-H2
CAN-L2
C12 100nF
C7 100nF
D4 PESD2CAN,215
GND

Buzzer

VCC_3V3
BUZZER1 4000Hz
D15 1N4004W
IO2
R22 120
Q3 MMBT2222A

ESP32 S3

VCC_3V3
C8 47uF
U8 ESP32-S3-WROOM-1(N16R8)
GND
3V3
EN
IO4
SPI_CS
Kline_TX
KLINE_RX
IO15_A8
CAN_TX
LIN_TX
LIN_RX
CAN_RX
D-_GPIO19
D+_GPIO20
GND
IO1
IO2
TXD0
RXD0
TFT_DC
TDI
TDO
TCK
KLINE_NSLP
IO0
GND
IO1
IO2
IO42
IO41
IO40
IO39
IO38
IO37
IO36
IO35
IO0
LIN_NSLP
CANFD_TX
CANFD_CLK
CANFD_MOSI
Card_cs
MISO
MOSI
SCK
SDA
SCL
IO48

LIN Tranceiver

VCC_3V3
LIN Module
LIN_INH
1N4004W D5
R5 10k
R11 10k
U3 TJA1020T/CM,118
RXD INH
NSLP BAT
NWAKE LIN
TXD GND
LIN_RX
LIN_NSLP
LIN_TX
12Vout+
LINOUT
C10 0.1u
C13 220pF
D6 BZT52C27S_C699159
D7 BZT52C27S_C699159
GND

RESET

VCC_3V3
R26 10k
RESET
C1 1uF
SW3 TSC017A10026A
R25 10k
IO0
RTS
Q7 MMBT2222A
R18 10k
DTR
Q2 MMBT2222A
RESET

BUS -Terminations

P4 LIN_TERM
R9 1k
LIN_INH
LIN_PU
P3 KLINE_TERM
R1 510
I2Vout+
Kline
P2 CAN0_TERM
R6 120
CAN-H1
CAN-L1
P1 CAN1_TERM
R7 120
CAN-H2
CAN-L2

ILI9488 4 Inch Capa TFT

VCC_3V3
C25 10uF
C26 100nF
FPC1 AFC01-S06FCC-00
R30 10k
R29 10k
SDA
SCL
IO48
R32 10k
RESET
VCC_3V3
C24 10uF
C11 100nF
TFT_DC
SPI_CS
TFT_DC
SCK
MOSI
RESET
R24 10k
R21 10
R20 10
R27 10
R19 1k
Q1 MMBT2222A
IO15_A8
P5
FPC 0.5MM 40P Pull type H2.0mm Pick up
GND

5V Switch

SW2 SK-12D02-VG7
VBUS_IN
V5_work
VCC_5V

micro SD card

VCC_3V3
R13 10k
R14 10k
R16 10k
R17 10k
Card_cs
MOSI
SCK
VCC_3V3
C15 100nF
MISO
CARD1 TF-115
DAT2
CD/DAT3
CMD
VDD
CLK
VSS
DAT0
DAT1
CD
SHELL
SHELL
SHELL
SHELL
GND

3V3 Output

VCC_3V3
U11 AMS1117-3.3_C369933
GND/ADJ
Output Output
Input
V5_work
C17 47uF
C16 47uF

CAN FD Controller

C2 22pf
X2 40MHz
C3 22pf
CANFD_TX
CANFD_RX
U2 MCP2517FD-H/SL
TXCAN
CLKO/SOF
INT#
OSC2
OSC1
VSS
VDD
nCS
SDO
SDI
SCK
INT0#/GPIO0/XSTBY
INT1#/GPIO1
VCC_3V3
IO0
CANFD_MISO
CANFD_MOSI
CANFD_CLK
C6 100nF
GND

DC-DC Converter

100nF C22
U7 TP6841S6
BST
GND VIN
FB EN
SW
L4 4.7uH
VCC_5V
C9 100nF
C23 10uF
C5 22uF
12Vout+
R4 147k
C18 22uF
C14 22uF
100K R10
R3 28k
GND

PMOD 1

12Vout+
F2 SMD1812-300C-16V
Kline
CAN-L2
CAN-H2
CAN-H1
CAN-L1
LINOUT
GND D12 SMBJ45CA_C309968
D13 1N4004W
IO1
IO2
H2 PM254-2-08-S-8.5

PMOD 2

H1 PM254-2-08-S-8.5
VBUS
RTS
DTR
TCK
TDO
TDI
D14 1N5819W_C2905650
TXD0
RXD0
IO3
IO4
VCC_3V3

USB-C

1N5819W_C2905650 D11
USB1 TYPE-C-31-M-08A
VBUS_IN
VBUS
GND GND
A4 VBUS
A5 CC1
A6 Dp1
A7 Dn1
A8 SBU1
A1 VBUS
A12
VBUS
SBU2
Dn2
Dp2
CC2
VBUS
GND GND
5.1K R34
D+_GPIO20
D-_GPIO19
VBUS_IN
R33 5.1K
VBUS_IN
D-_GPIO19
D+_GPIO20