SDL

CAN Watchdog Latch

Latches

AMS Latch

IMD Latch

Vehicle Start Latch

Connectors

+12V

CANWD_FAULT_SIGNAL

R3 4.7k
R2 10k
R1 2.2k

D10

COIL_1 COIL_2
NC_1 NC_2
K2
COM_1 COM_2
NO_1 NO_2

GND

CANWD_STATUS

SDL_CANWDL_AMSL

R11 4.7k
SDL_CANWDL_AMSL

AMS_STATUS
R10 10k
SDL_CANWDL_AMSL
D7

AMS_FAULT_SIGNAL

S2
R12 10k

SDL_CANWDL_AMSL

D5

COIL1_+ COIL1-
NC1 NC2
COM1 COM2
K3
NO1 NO2
COIL2+ COIL2-

R6 2.2k

GND

D8

Q1

GND

IMD_FAULT_SIGNAL

SDL_CANWDL_AMSL

IMD_STATUS
R13 2.2k
R14 10k
GND

SDL_CANWDL_AMSL
R15 4.7k

D6
D7

S3

Q2

COIL1_+ COIL1-
NC1 NC2
COM1 COM2
K4
NO1 NO2
COIL2+ COIL2-

R16 2.2k

GND

SDL_AMSL_IMDL

D9

GND

VSB_STATUS

R17 10k
R18 1k
D2

K1

GND

D4

GND

+3.3V
+5V

SDL_PRECHARGE_RTDS
RTDS_BUZZER
+12V
GND
SDL_PDB_CANWDL

SDL_VSBL_3BRANCH
SDL_CANWDL_BOTS
SDL_TSMS_VSB

U$2
1
2
3
4
5
6
7
8
9
10
11
12
13
14

RADIO_STATUS
AMS_STATUS
IMD_STATUS

+12V

SDL_PDB_CANWDL
+12V
GND
SDL_IMDL_BOTS
SDL_TSMS_VSB
SDL_VSBL_3BRANCH
RTDS_BUZZER
SDL_PRECHARGE_RTDS

GND

CAN

CAN Watchdog

J1
1
2
CAN_L2
CAN_H2
R22 120

3V3
+3.3V
U2

3.3V P$45
GND P$47
PB8 P$75
PB9 P$76
PA8 P$86

C5

GND

D GND
GND CANH
VCC CANL
R VREF

RS
R19 10k

SN65HVD230DR-SMD_CAN-TRANSCEIVERD8

GND

CANWD_FAULT_SIGNAL

GND

CAN Transmitter

J2
1
2
CAN_L1
CAN_H1
R21 120

+3.3V
GND

3V3

U1

3V3 GND_J3_1
EN IO23
SENSOR_VP IO22
SENSOR_VN TXD0
IO34 RXD0
IO35 IO21
IO32 GND_J3_7
IO33 IO19
IO25 IO18
IO26 IO5
IO27 IO17
IO14 IO16
IO12 IO4
GND_J2_14 IO0
IO13 IO2
SD2 IO15
SD3 SD1
CMD SD0
EXT_5V CLK1

ESP32-DEVKITC-32E

BUTTON_STATUS
AMS_STATUS
IMD_STATUS
CANWD_STATUS
VSB_STATUS
RADIO_STATUS

GND

3V3
C1 0.1uF
+3.3V
GND

U3

D GND
GND CANH
VCC CANL
R VREF

RS
R20 120

SN65HVD230DR-SMD_CAN-TRANSCEIVERD8

GND

GND

RTDS

R7 10k
C2 100uF
R4 10k
R8 10k
12V
R5 10k
Q3
R9 200k
12V
+12V

GND

IC1

RST V+
CV THR
TR DIS
GND OUT

LM555_SOIC

C4 .01uF
C3 10uF

GND GND GND

Radio

U4

RFM69HCW
ISM BAND RADIO

GND DIO2
MISO DIO1
MOSI DIO0
SCK VDD
NSS DIO4
RESET DIO3
DIO5 GND
GND ANT

VDD 1.8-3.6V
Temp: -40~+85°C

RFM69HCW

J3

5V D0/RX
3V3 D1/TX
VIN D2
GND D3
RESET D4
AREF D5
A7 D6
A6 D7
A5/SCL D8
A4/SDA D9
A3 D10
A2 D11
A1 D12
A0 D13

NANO_FOOTPRINT

RADIO_STATUS
VSB_STATUS

R27 10k
R25 10k
R24 10k
R23 10k

GND

GND