AP1117-3.3V SOT223
U1
GND
Vout Vout2
Vin

+5V +3.3V
C1 C2
10u 10u
SMO805 SMO805

Use 0 ohm resistors if no magnetics are available.
WARNING: It is dangerous to use ethernet without magnetics
be absolutely certain the other device is isolated.
WARNING: Ethernet without magnetics will not work as well
and may not work at all in some situations.

ESP12E ESP1
ESP12E
REST TXD 22
ADC RXD 21
CH_PD GPIO5 20
GPIO16 GPIO4 19
GPIO14 GPIO0 18
GPIO12 GPIO2 17
GPIO13 GPIO15 16
VCC GND 15
MTD0 MTD1 SD_3 MTMS MTCK SD_2

P1
EXTHDR
SIL-8

RN1
R1 C R2 R8 R3 R7 R4 R6 C R5
EXB-A
EXB-A (10k)

RX TX
GPIO0 GPIO2 GPIO5 GPIO4

U3
VCC A 8
RO B 7
RI Z 6
GND Y 5
SO8E
ISL3177

T1
16 1:1 1
15 2
14 3
13 4
12 5
11 1:2 6
10 7
9 8

SMT_ETHERNET
P2
ETHERNET

C4 100p
SMO805
R2 100 SMO805
R3 100 SMO805

S553-5999-52
BELFuse-S553

NOTE: Must use 10 Megabit magnetics. It will help prevent high
freuqency noise from coming in.

R4 270 SMO805
C3 100p SMO805
R1 100 SMO805

NOTICE: Capacitor and resistor values were guessed. Other values are likely much better!

CC 3.0 BY
(C) 2016 <>< Charles Lohr
File: esp12e-ethernet.sch
Sheet: /
Title: ESP8266 10-Base-T Ethernet with Magnetics and Driver
Size: USLetter   Date: 31 mar 2016
KiCad E.D.A.
Rev: -
Id: 1/1