+3.3V

Rs
22k

Rs1
100k

2 +

ShntRef
LM4041
MISC

1
FB

3 −

Rs2
22k

R5
10k

R3
10k

gnd 1

2

3

J6
HeadphoneJack

| | **University Of Texas At Austin** |
| --- | --- |
| **hematic Name:** | Lab 7: Soundtrack Device |
| **me(s):** | Kevin Yee and Stefan Bordovsky |
| **e:** 3/19/2017 | **Semester:** Spring 2017 |

U1e
TM4C123GH6PM
LQFP

PE5 60
PE4 59
PE3 6
PE2 7
PE1 8
PE0 9

+3.3V
+3.3

10k
R6
Gnd

B3F-1050

10k
R7
Gnd

B3F-1050

PE2: Up Butt

U1d
TM4C123GH6PM
LQFP

PD7 10
PD6 53
PD5 44
PD4 43
PD3 64
PD2 63
PD1 62
PD0 61

Accel
ADXL335

1 ST
2 Z
3 Y
4 X
5 Gnd
6 VCC

PE1
10k
R8
Gnd

B3F-1050

PE1: Down Bu

+3.3V
+3.3

C16
0.1uF

Gnd

PE0
10k
R9
Gnd

B3F-1050

PE0: Down Butt

U1a
TM4C123GH6PM
LQFP

PA7 24
PA6 23
PA5 22
PA4 21
PA3 20
PA2 19
PA1 18
PA0 17

J5
ST7735
LCD

1 Gnd
2 Vcc
3 Reset
4 Data/Command
5 CARD_CS
6 TFT_CS
7 MOSI
8 SCLK
9 MISO
10 Light

160x128 pixels
16-bit color

+3.3
+3.3V

Gnd

Sch
Nan
Dat

Connect logic analyzer to digital signals you wish to test

J3
LogicAnalyzer
DIP
16 Chan0
15 Chan1
14 Chan2
13 Chan3
12 Chan4
11 Chan5
10 Chan6
9 Chan7
Gnd Gnd Gnd Gnd Gnd Gnd Gnd Gnd
1 2 3 4 5 6 7 8
Gnd

Battery external to PCB

+5V battery

Dropout voltage is 350mV
Maximum output current is 100 mA

Battery

+5V

3 In Out 1
Gnd

U2
LP2950CZ-3.3
TO220

1
J2
Header2
SIP
2

GND

C1
4.7uF

1 Out
2 Gnd
3 In

Top

2

Replace with LM293

U1c
TM4C123GH6PM
LQFP
PC7 13
PC6 14
PC5 15
PC4 16
PC3 49  TDO 5
PC2 50  TDI 4
PC1 51  TMS 3
PC0 52  TCK 2
1
J1
Header5
SIP

JTAG
Connect these 5 signals to LaunchPad
Disconnect jumper on H24-H25 to unpower TM
(or disconnect jumper on JP3 to unpower TM
Power both this target and LaunchPad JTAG deb

+3.3V

U1g
TM4C123GH6PM
LQFP
VDDA 2
GNDA 3
VDD 11
GND 12
VDDC 25
VDD 26
GND 27
VDD 42
OSC1 41
OSC0 40
GND 39
VDD 54
GND 55
VDDC 56
RST* 38

C3
0.01uF

C4
0.1uF

C9
0.1uF

C13
10pF

OSC0

2 B
Y1
16 MHz
1 A

OSC1

C14
10pF

Crystal CL=8pF Digikey 644-1037-
C13=C14=2*(8pF-boardCapacitanc
Digikey NX5032GA-16.000000
Mouser ABRACON ABM3-16.000M

**University Of Texas At Austin**

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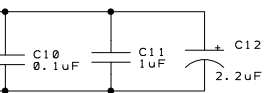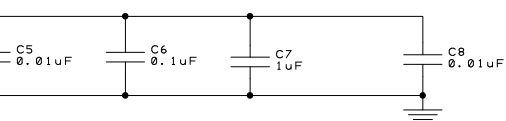
This PCB will go into a Lab9Box, WoodBox and WoodBox2

R4
470

D2
LEDT1.75
Red 1mA
Avago HLMP-D150

2
7uF
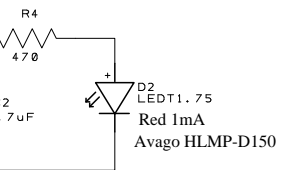
87-3.3 if 100<I<500mA

4C123 LaunchPad
M4C123 Connected LaunchPad)
bugger

C5
0.01uF

C6
0.1uF

C7
1uF

C8
0.01uF

C10
0.1uF

C11
1uF

C12
2.2uF

+3.3V
+3.3

R2
10k

RST

2-ND
e)

MHZ-B2-T

+3.3V
+3.3

R1
1M

U1h
TM4C123GH6PM
LQFP

| | | |
|---|---|---|
| VBAT | 37 | |
| GNDX | 35 | |
| XOSC1 | 36 | |
| XOSC0 | 34 | |
| HIB* | 33 | |
| WAKE* | 32 | Wake |

SW1
KSC353JLFG
SM

3
4
1
2
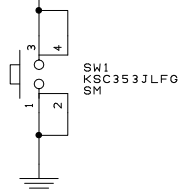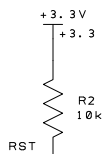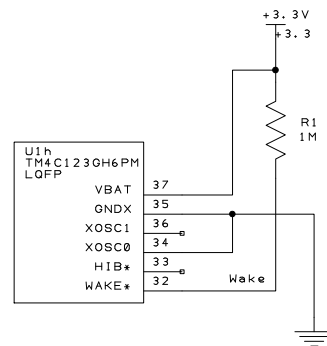
| University Of Texas At Austin | | |
|---|---|---|
| **Schematic Name:** | Lab 7: Power Clock JTAG | |
| **Name(s):** | Kevin Yee and Stefan Bordovsky | |
| **Date:** 3/19/2017 | **Semester:** | Spring 2017 |