U1

PB0 (ICP)	12	CS_LIS
PB1 (OC1A)	13	CS
PB2 (SS/OC1B)	14	MOSI
PB3 (MOSI/OC2)	15	MISO
PB4 (MISO)	16	SCK
PB5 (SCK)	17	
PB6 (XTAL1/TOSC1)	7	
PB7 (XTAL2/TOSC2)	8	

PC0 (ADC0) 23
PC1 (ADC1) 24
PC2 (ADC2) 25 STOP
PC3 (ADC3) 26
PC4 (ADC4/SDA) 27
PC5 (ADC5/SCL) 28

ADC6 19
ADC7 22

PD0 (RXD) 30 RXD
PD1 (TXD) 31 TXD
PD2 (INT0) 32 INT1
PD3 (INT1) 1 INT2
PD4 (XCK/T0) 2 LED1
PD5 (T1) 9
PD6 (AIN0) 10
PD7 (AIN1) 11

PC6 (RESET) 29 RESET

VCC 6
VCC 4
AVCC 18 VCC
AREF 20

GND 21
GND 5
GND 3

ATmega8-16AC

VCC GND
R1 10k R2 omit
Reset by short to GND
RESET DTR

R4 omit
GND STOP

D1
LED1 R3 330 A K GND
LED_0603

C3 0.1uF GND

P3
MISO 1 2 VCC
SCK 3 4 MOSI
RESET 5 6 GND
AVR SPI

P2
5 GND
4 VCC
3 RXD
2 TXD
1 DTR
Header 5

P4
NC 1
CS 2 CS
DI 3 MOSI
VCC 4
SCK 5 SCK
GND 6
DO 7 MISO
NC 8
microSD Hirose
HR1941DKR-ND

GND
C4 10uF VCC

U5
V1.8 1 VCCL VCCH 14 VCC
MISO_1.8 2 L1 H1 13 MISO
SCK_1.8 3 L2 H2 12 SCK
MOSI_1.8 4 L3 H3 11 MOSI
CS_LIS_1.8 5 L4 H4 10 CS_LIS
6 nc nc 9
GND 7 GND OE 8 VCC
Level Shifter
568-8404-2-ND

U2
SCK_1.8 1 SCL/SPC INT1 12 INT1_1.8
CS_LIS_1.8 2 CS INT2 11 INT2_1.8
MISO_1.8 3 SDO/SA0 VDD_IO 10
MOSI_1.8 4 SDA/SDI VDD 9
5 NC GND 8 GND
GND 6 GND GND 7 GND
LIS2DS12
497-16261-2-ND

GND
C5 100nF V1.8
+C6 10uF V1.8
C7 100nF
GND GND

U4
VCC 3 VIN VOUT 2 V1.8
GND 1 GND
MCP1700T-1802E/TT
C9 1.0uF
GND
C8 1.0uF
GND

U3
V1.8 1 VCCL VCCH 14 VCC
INT1_1.8 2 L1 H1 13 INT1
INT2_1.8 3 L2 H2 12 INT2
4 L3 H3 11
5 L4 H4 10
6 nc nc 9
GND 7 GND OE 8 VCC
Level Shifter
568-8404-2-ND

P1
SCK_1.8 1 9 SCK
CS_LIS_1.8 2 10 CS_LIS
MOSI_1.8 3 11 MOSI
MISO_1.8 4 12 MISO
INT1_1.8 5 13 INT1
INT2_1.8 6 14 INT2
GND 7 15 GND
V1.8 8 16 VCC
Header 8X2A

P5
VCC 1
GND 2
Header 2

P24
VCC 1 + - 2 GND
CoinCellHolder
BU2032SM-BT-GCT-ND

Title: Teeny Tiny Fish Tag-LIS2DS12 3.0V Atmega
Loggerhead Instruments
Size: Letter
Number:
Revision: 1.0
Date: 12/10/2022
Sheet bf 1
File: C:\w\..\TTFT_3.0.SchDoc
Drawn By: D. Mann

TTFT 3.0V
Loggerhead

U5

R3

D1

R1 R2

C7
C6
C8
C6
U2

BTR

TXD

RXD

VCC

GND

U4

C5

R4

C3

C9

U3

GND

3.0V

1.8V

+

MISO

D

U

G

+

Battery

C4
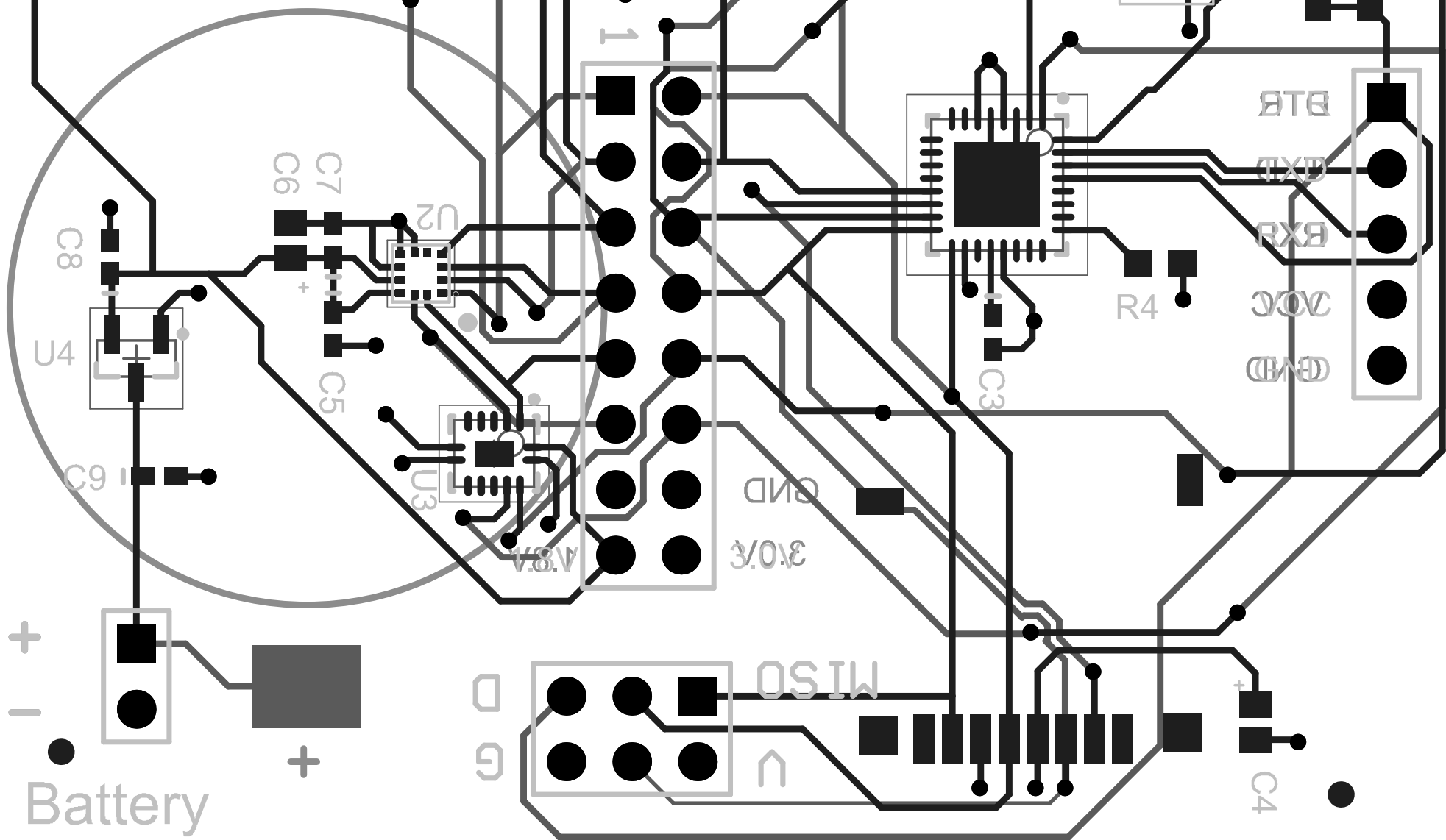
Comment	Description	Designator	Footprint	LibRef	Quantity
0.1uF	Ceramic Chip Capacitor - Standard	C3	0402	C0402	1
10uF		C4, C6	Tant0805	Tant0805	2
100nF	Ceramic Chip Capacitor - Standard	C5, C7	0402	C0402	2
1.0uF	Ceramic Chip Capacitor - Standard	C8, C9	0402	C0402	2
LED_0603		D1	Diode0603	LED_0603	1
Header 8X2A	Header, 8-Pin, Dual row	P1	HDR2X8_CEN	Header 8X2A	1
Header 5	Header, 5-Pin	P2	HDR1X5	Header 5	1
AVR SPI	Header, 3-Pin, Dual row	P3	HDR2X3	Header 3X2	1
microSD Hirose		P4	DM3D microSD	microSD Hirose	1
Header 2	Header, 2-Pin	P5	HDR1X2	Header 2	1
CoinCellHolder		P24	CoinCellHolder	CoinCellHolder	1
10k	Precision Thick Film Chip Resistor, 10 Ohm to 1M Ohm Range, 1% and 0.5% Tolerance, 0603 Size, 0.063 W	R1	3-0603	ERJ3RK	1
omit	Precision Thick Film Chip Resistor, 10 Ohm to 1M Ohm Range, 1% and 0.5% Tolerance, 0603 Size, 0.063 W	R2, R4	3-0603	ERJ3RK	2
330	Precision Thick Film Chip Resistor, 10 Ohm to 1M Ohm Range, 1% and 0.5% Tolerance, 0603 Size, 0.063 W	R3	3-0603	ERJ3RK	1
ATmega8-16AC	8-Bit AVR Microcontroller with 8K Bytes of In-System Programmable Flash Memory	U1	32M1-A_M	ATmega8-16AC	1
LIS2DS12		U2	LGA-12	LIS2DS12	1
Level Shifter	Voltage level translator	U3, U5	DHVQFN14	NTB0104	2
MCP1700T-1802E/TT	Low Quiescent Current LDO, 3-Pin SOT-23, Extended Temperature, Tape and Reel	U4	SOT-23-TT3_N	MCP1700T-1802E/TT	1