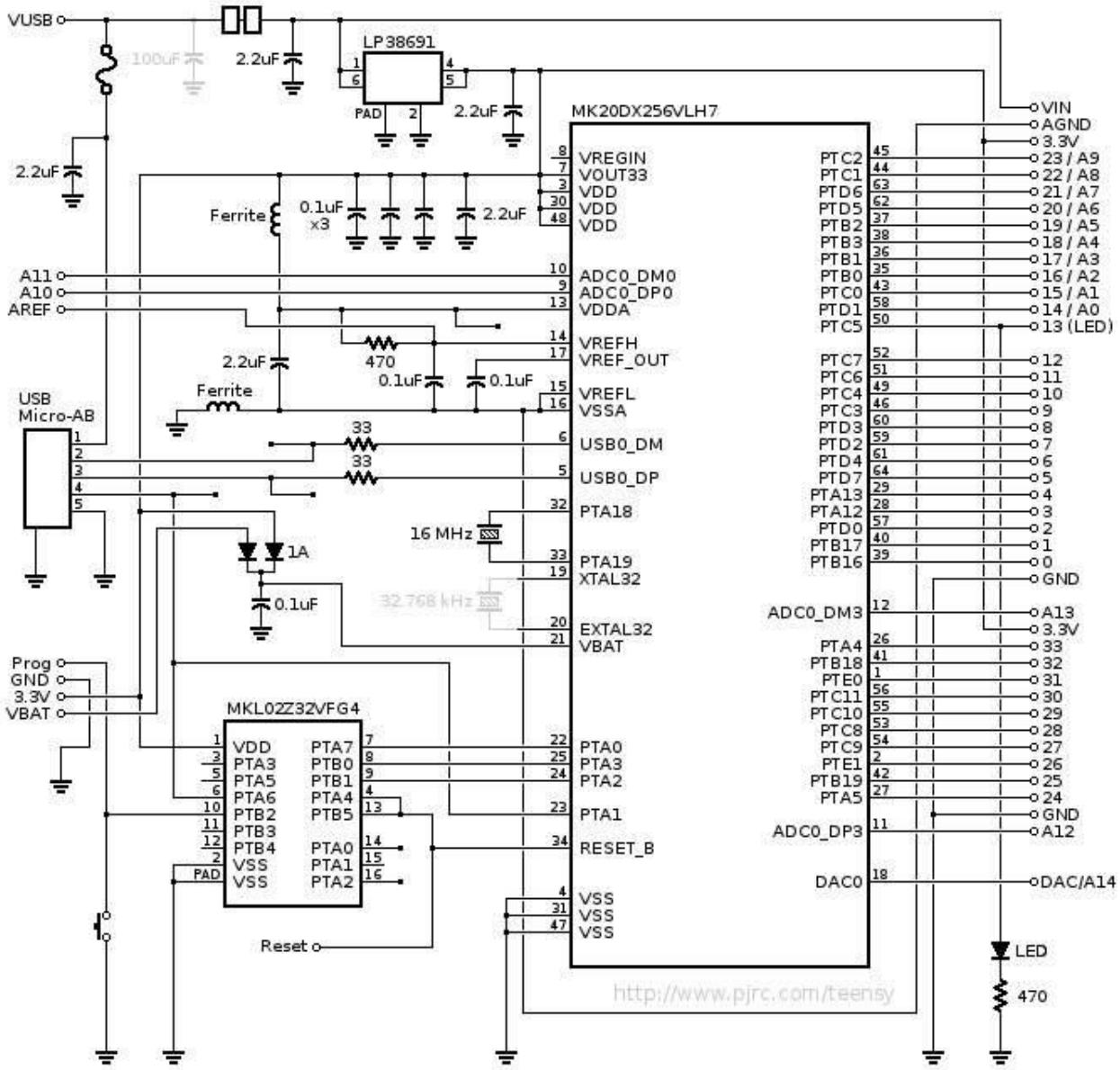
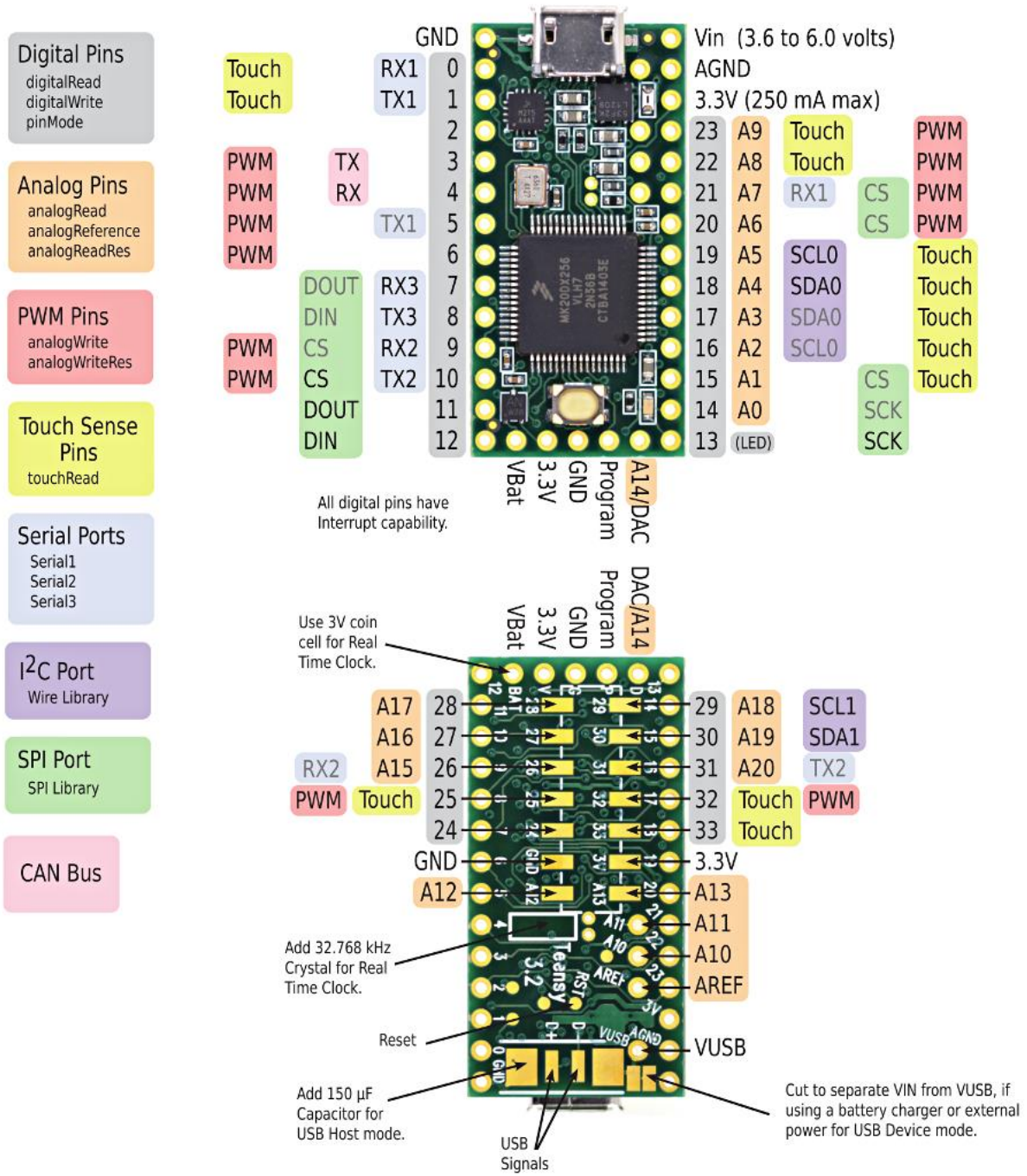
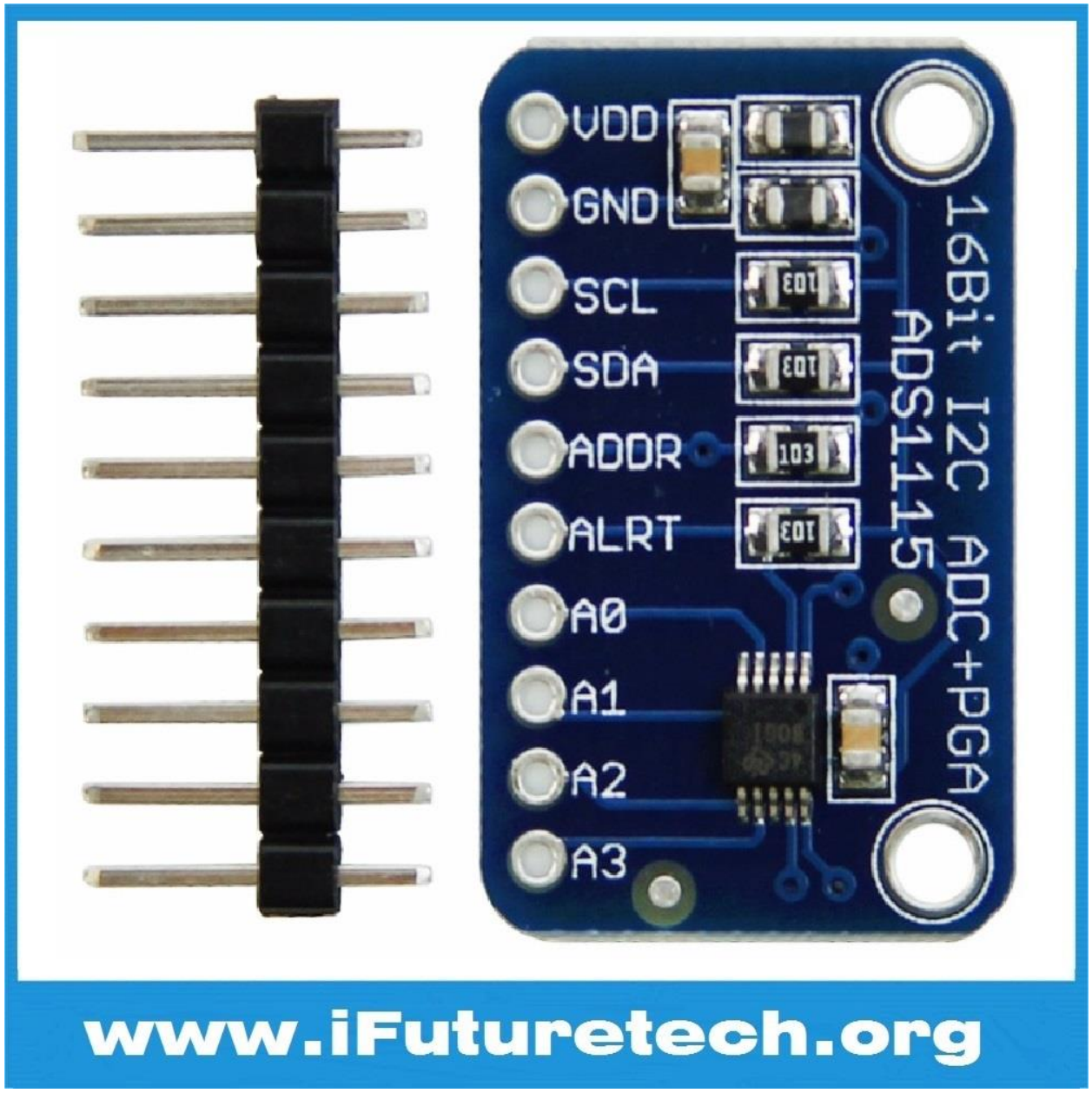
Teensy 3.2

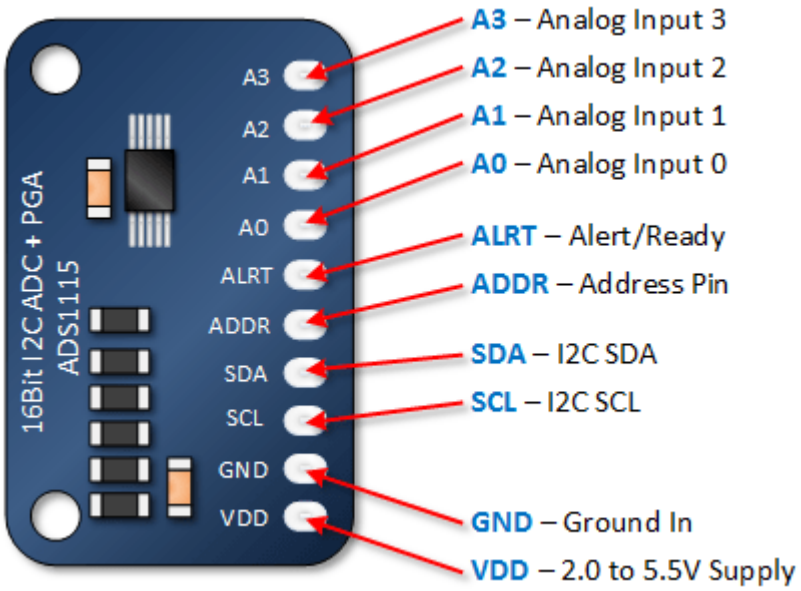

VUSB
100uF
2.2uF
LP38691
PAD
2.2uF
MK20DX256VLH7
VREGIN
VOUT33
VDD
VDD
VDD
Ferrite
0.1uF x3
2.2uF
A11
A10
AREF
ADC0_DM0
ADC0_DP0
VDDA
VREFH
VREF_OUT
VREFL
VSSA
470
2.2uF
0.1uF
0.1uF
Ferrite
USB Micro-AB
33
33
USB0_DM
USB0_DP
16 MHz
PTA18
PTA19
XTAL32
EXTAL32
VBAT
1A
0.1uF
32.768 kHz
Prog
GND
3.3V
VBAT
MKL02Z32VFG4
VDD
PTA3
PTA5
PTA6
PTB2
PTB3
PTB4
VSS
VSS
PTA7
PTB0
PTB1
PTA4
PTB5
PTA0
PTA1
PTA2
PTA0
PTA3
PTA2
PTA1
RESET_B
Reset
VSS
VSS
VSS
VIN
AGND
3.3V
23 / A9
22 / A8
21 / A7
20 / A6
19 / A5
18 / A4
17 / A3
16 / A2
15 / A1
14 / A0
13 (LED)
12
11
10
9
8
7
6
5
4
3
2
1
0
GND
A13
3.3V
33
32
31
30
29
28
27
26
25
24
GND
A12
DAC/A14
PTC2
PTC1
PTD6
PTD5
PTB2
PTB3
PTB1
PTB0
PTC0
PTD1
PTC5
PTC7
PTC6
PTC4
PTC3
PTD3
PTD2
PTD4
PTD7
PTA13
PTA12
PTD0
PTB17
PTB16
ADC0_DM3
PTA4
PTB18
PTE0
PTC11
PTC10
PTC8
PTC9
PTE1
PTB19
PTA5
ADC0_DP3
DAC0
LED
470
http://www.pjrc.com/teensy


Digital Pins
digitalRead
digitalWrite
pinMode
Analog Pins
analogRead
analogReference
analogReadRes
PWM Pins
analogWrite
analogWriteRes
Touch Sense Pins
touchRead
Serial Ports
Serial1
Serial2
Serial3
I2C Port
Wire Library
SPI Port
SPI Library
CAN Bus
GND
Vin (3.6 to 6.0 volts)
AGND
3.3V (250 mA max)
All digital pins have Interrupt capability.
VBat
3.3V
GND
Program
A14/DAC
DAC/A14
Use 3V coin cell for Real Time Clock.
Add 32.768 kHz Crystal for Real Time Clock.
Reset
Add 150 µF Capacitor for USB Host mode.
USB Signals
Cut to separate VIN from VUSB, if using a battery charger or external power for USB Device mode.

CAN Transceiver

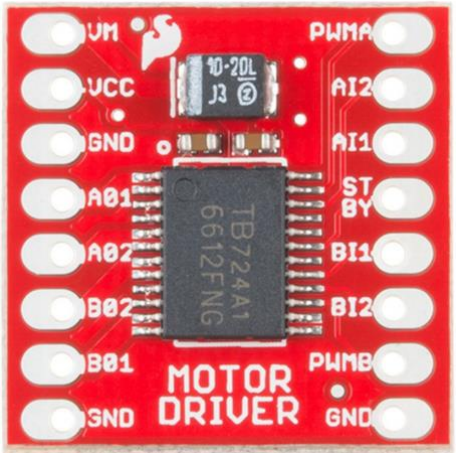
16bit ADC


VDD
GND
SCL
SDA
ADDR
ALRT
A0
A1
A2
A3
16Bit I2C ADC+PGA
ADS1115
www.iFuturetech.org

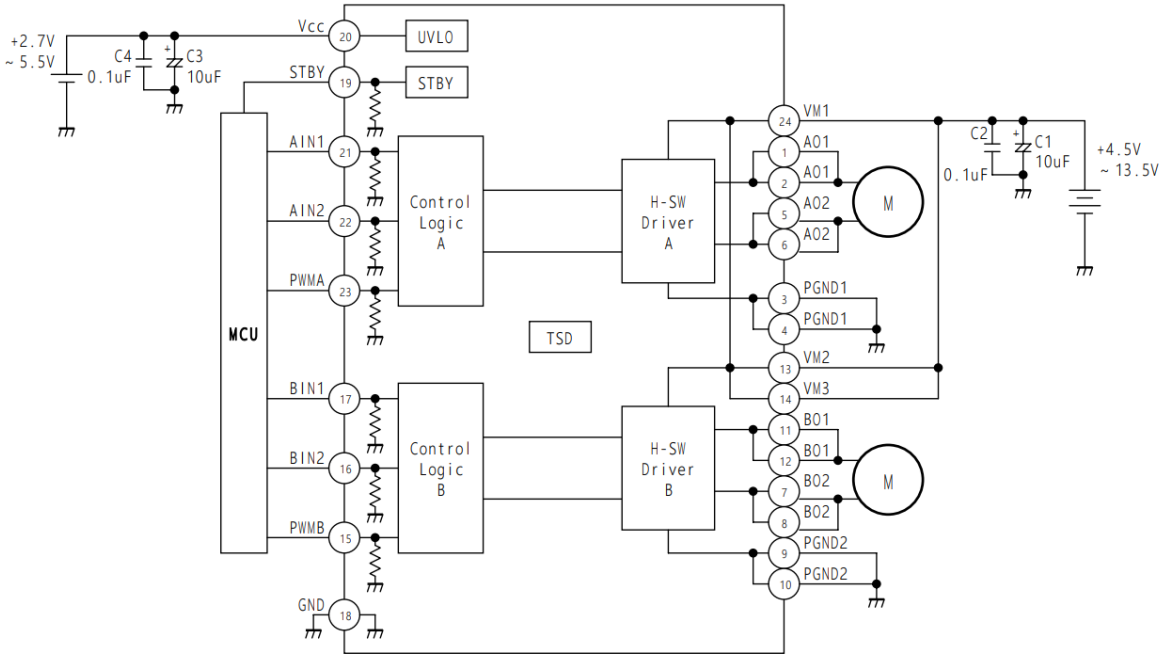


Motor Driver - Dual TB6612FNG v2

RB-Spa-1516



Typical Application Diagram



Characteristics	Symbol	Min	Typ.	Max	Unit	Remarks
Supply voltage	Vcc	2.7	3	5.5	V	
	VM	4.5	5	13.5	V	
Output current (H-SW)	Iout	---	---	1.0	A	VM 5V
		---	---	0.4		5V > VM 4.5V
Switching frequency	fPWM	---	---	100	kHz	

Absolute Maximum Ratings (Ta = 25°C)

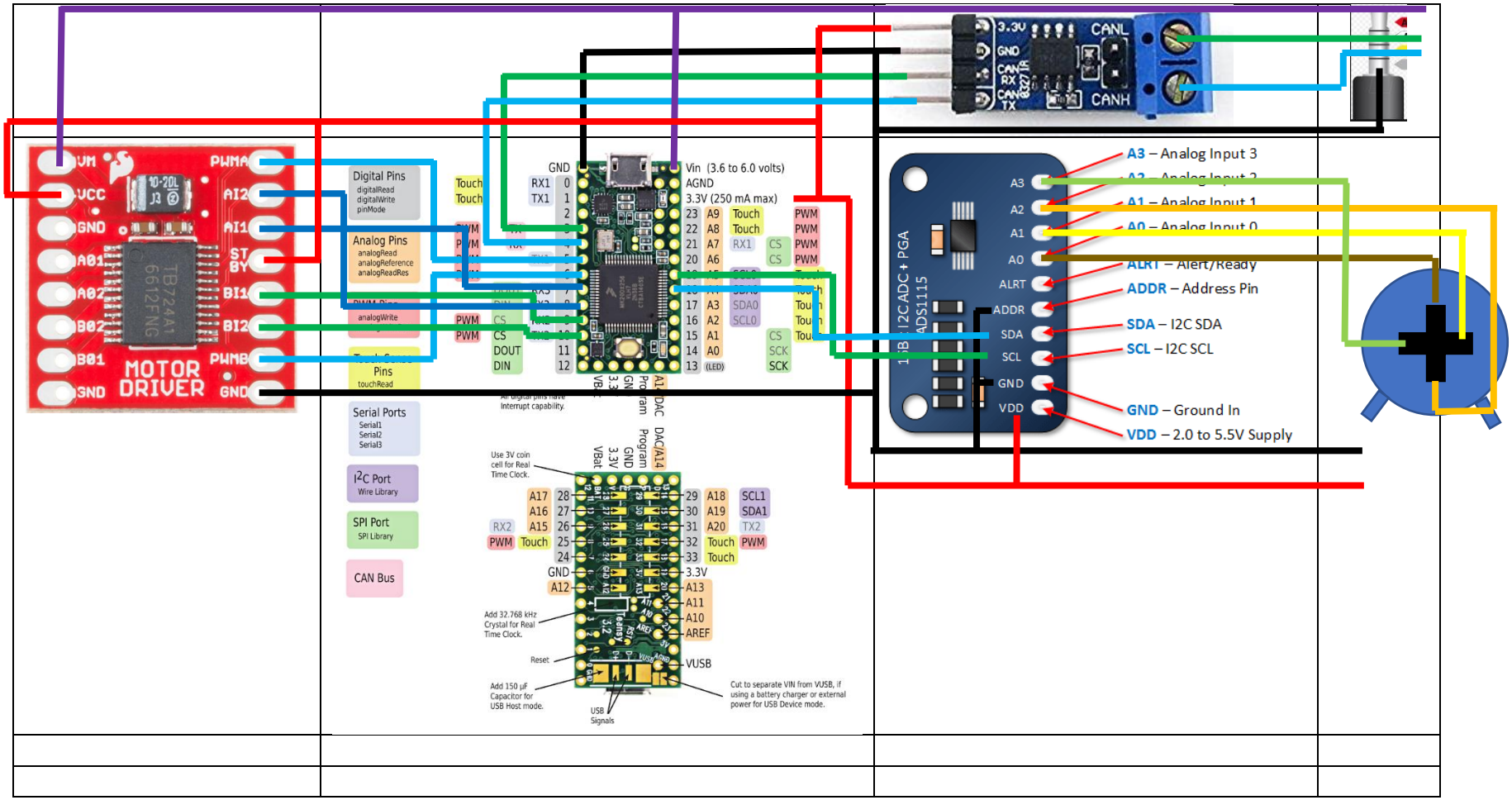
Characteristics	Symbol	Rating	Unit	Remarks
Supply voltage	VM	15	V	
	Vcc	6		
Input voltage	VIN	-0.2 ~ 6	V	IN1, IN2, STBY, PWM pins
Output voltage	Vout	15	V	01, 02 pins
Output current	Iout	1.2	A	Per 1ch
	Iout (peak)	2		tw=20ms Continuous pulse, Duty 20%
		3.2		tw=10ms Single pulse
Power dissipation	PD	0.78	W	IC only
		0.89		50 × 50 t=1.6(mm) Cu 40% in PCB mounting
		1.36		76.2 × 114.3 t=1.6(mm) Cu 30% in PCB monting
Operating temperature	Topr	-20 ~ 85	°C	
Storage temperature	Tstg	-55 ~ 150	°C	

Pin Functions

No.	Pin Name	I/O	Function
1	AO1	O	ch A output1
2	AO1		
3	PGND1	—	Power GND 1
4	PGND1		
5	AO2	O	ch A output2
6	AO2		
7	BO2	O	ch B output2
8	BO2		
9	PGND2	—	Power GND 2
10	PGND2		
11	BO1	O	ch B output1
12	BO1		
13	VM2	—	Motor supply (2.5 V to 13.5 V)
14	VM3		
15	PWMB	I	ch B PWM input / 200 kΩ pull-down at internal
16	BIN2	I	ch B input 2 / 200 kΩ pull-down at internal
17	BIN1	I	ch B input 1 / 200 kΩ pull-down at internal
18	GND	—	Small signal GND
19	STBY	I	“L”=standby / 200 kΩ pull-down at internal
20	Vcc	—	Small signal supply
21	AIN1	I	ch A input 1 / 200 kΩ pull-down at internal
22	AIN2	I	ch A input 2 / 200 kΩ pull-down at internal
23	PWMA	I	ch A PWM input / 200 kΩ pull-down at internal
24	VM1	—	Motor supply (2.5 V~13.5 V)

H-SW Control Function

Input				Output		
IN1	IN2	PWM	STBY	OUT1	OUT2	Mode
H	H	H/L	H	L	L	Short brake
L	H	H	H	L	H	CCW
		L	H	L	L	Short brake
H	L	H	H	H	L	CW
		L	H	L	L	Short brake
L	L	H	H	OFF (High impedance)		Stop
H/L	H/L	H/L	L	OFF (High impedance)		Standby


MOTOR DRIVER
PWMA
AI2
AI1
STBY
BI1
BI2
PWMB
VM
VCC
GND
AO1
AO2
BO2
BO1
3.3V
CANL
CANH
CAN TX
CAN RX
A3 – Analog Input 3
A2 – Analog Input 2
A1 – Analog Input 1
A0 – Analog Input 0
ALRT – Alert/Ready
ADDR – Address Pin
SDA – I2C SDA
SCL – I2C SCL
GND – Ground In
VDD – 2.0 to 5.5V Supply
I2C ADC + PGA
ADS1115
Digital Pins
digitalRead
digitalWrite
pinMode
Analog Pins
analogRead
analogReference
analogReadRes
analogWrite
Touch Pins
touchRead
Serial Ports
Serial1
Serial2
Serial3
I2C Port
Wire Library
SPI Port
SPI Library
CAN Bus
Vin (3.6 to 6.0 volts)
AGND
3.3V (250 mA max)
Use 3V coin cell for Real Time Clock.
Add 32.768 kHz Crystal for Real Time Clock.
Reset
Add 150 µF Capacitor for USB Host mode.
USB Signals
Cut to separate VIN from VUSB, if using a battery charger or external power for USB Device mode.

Code pour module 16 bits :

http://henrysbench.capnfatz.com/henrys-bench/arduino-voltage-measurements/arduino-ads1115-module-getting-started-tutorial/

```
#include <Wire.h>
#include <Adafruit_ADS1015.h>

Adafruit_ADS1115 ads(0x48);
float Voltage = 0.0;

void setup(void)
{
  Serial.begin(9600);
  ads.begin();
}

void loop(void)
{
  int16_t adc0;  // we read from the ADC, we have a sixteen bit integer as a result

  adc0 = ads.readADC_SingleEnded(0);
  Voltage = (adc0 * 0.1875)/1000;

  Serial.print("AIN0: ");
  Serial.print(adc0);
  Serial.print("\tVoltage: ");
  Serial.println(Voltage, 7);
  Serial.println();

  delay(1000);
}
```