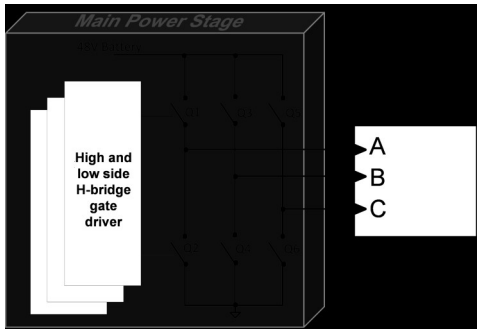


Sheet: 3Phase_Inverter

GH_A
GL_A
GH_B
GL_B
GH_C
GL_C
PH_A
PH_B
PH_C
PWR
sense_P
GND

File: 3Phase_Inverter.sch

Sheet: GateDriveSection

+12V
GH_A
GL_A
GH_B
GL_B
GH_C
GL_C
PH_A
PH_B
PH_C
PWM_AH
PWM_AL
PWM_BH
PWM_BL
PWM_CH
PWM_CL

File: GateDriveSection.sch

Sheet: Microcontroller & Peripherals

LOCKOUT
+12V
GP34
temp_sens
PWM_AH
PWM_AL
PWM_BH
PWM_BL
PWM_CH
PWM_CL
+3.3V
VA_FB
VB_FB
VC_FB
VDC_FB
IT_FB
PWR
GND

File: Microcontroller & Peripherals.sch

Sheet: Powersupply

LOCKOUT
+12V
GND
+5VD
+3.3VD
+5V
+3.3V

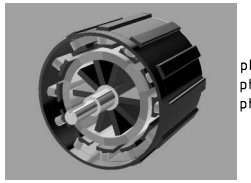
File: Powersupply.sch

TH1
Thermistor_NTC
C3
0.1uF,25V
+3.3V
GND
C1
DNP
R81
10K
GND

Sheet: Feedback_Circuit

+3.3V
PH_A
PH_B
PH_C
PWR
sense_P
GND
VA_FB
VB_FB
VC_FB
VDC_FB
IT_FB

File: Feedback_Circuit.sch



ph_A1
ph_B1
ph_C1
PWR
J1
PWR
J2
GND
GND

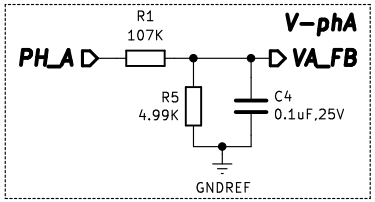
H1
MountingHole
H2
MountingHole
H3
MountingHole

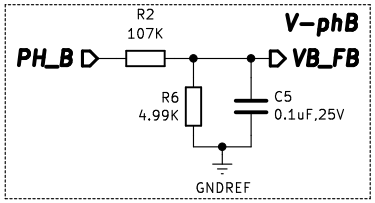
Design by: Jesal Patel
Status : Ongoing Design
Greenvolt Mobility L.L.P.

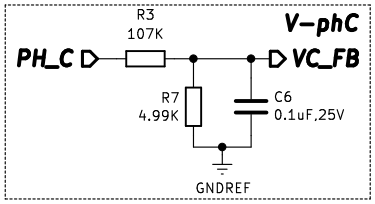
Sheet: /
File: DRV08.sch

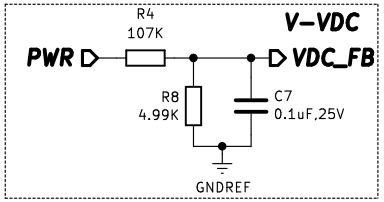
Title: DRV08

Size: A4	Date: 2019-06-14	**Rev: V08**
KiCad E.D.A. kicad (5.1.9)-1		Id: 1/9



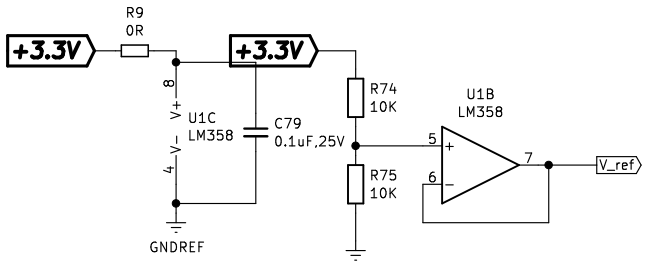


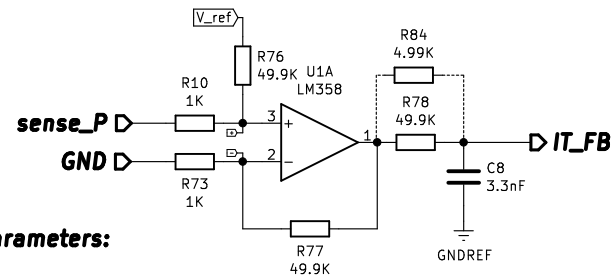




Cutoff frequency = 334.863Hz

-> Cutoff frequency = 1 / (2 * PI * Rpall * C)



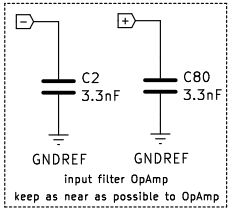


Amplifier Parameters:

Internal Reference = 1.65V
Gain = 50
Vcc = 3.3V
Voffset = 1.65V
Peak Amp measurable = 33A

Iout = (Vcc - Voffset) / (Rsh * Gain)

R	C	F
4.99K	3.3nF	10KHz
49.9K	3.3nF	1KHz



Sheet: Current_Sensor_INA240

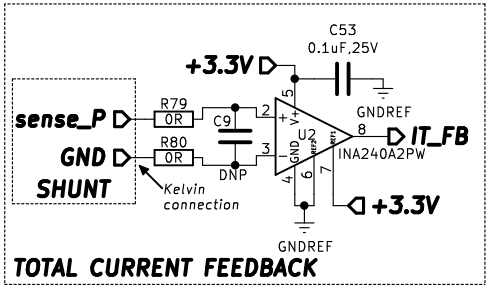
Not Implemented

File: Current_Sensor_INA240.sch

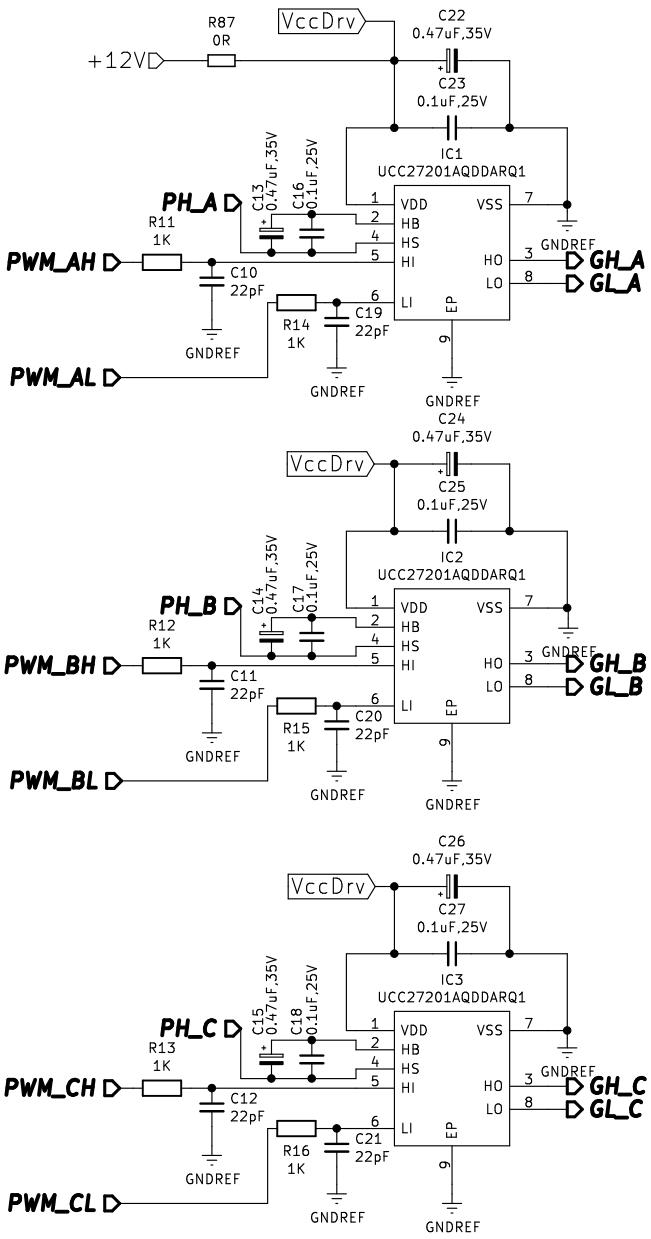
Design by: Jesal Patel
Status : Ongoing Design
Greenvolt Mobility L.L.P.
Sheet: /Feedback_Circuit/
File: Feedback_Circuit.sch

Title: DRV08

Size: A4	Date: 2019-06-14	**Rev: V08**
KiCad E.D.A. kicad (5.1.9)-1		Id: 2/9



Sheet: /Feedback_Circuit/Current_Sensor_INA240/	
File: Current_Sensor_INA240.sch	
Title:	
Size: A4	Date:
KiCad E.D.A. kicad (5.1.9)-1	Id: 3/9



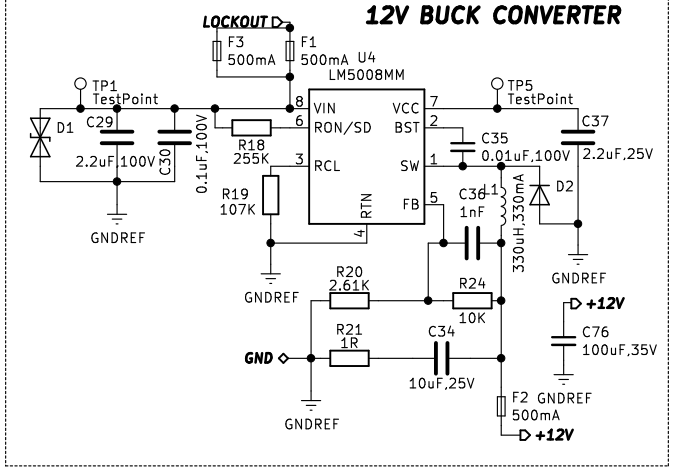
Design by: Jesal Patel
Status : Ongoing Design
Greenvolt Mobility L.L.P.

Sheet: /GateDriveSection/
File: GateDriveSection.sch

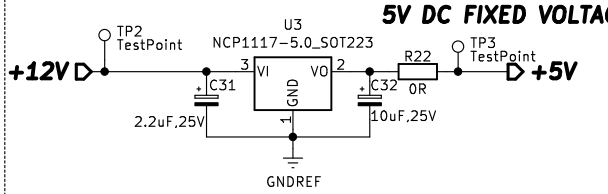
Title: DRV08

Size: A4	Date: 2019-06-14	**Rev: V08**
KiCad E.D.A. kicad (5.1.9)-1		Id: 4/9

12V BUCK CONVERTER

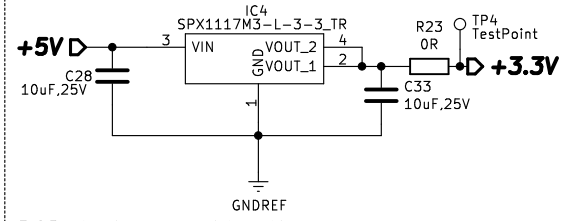


5V DC FIXED VOLTAGE REGULATOR



PCB design considerations:

1. Keep C31 and C32 as close as possible with respective pins.
3. Use 0R or 500mA fuse.



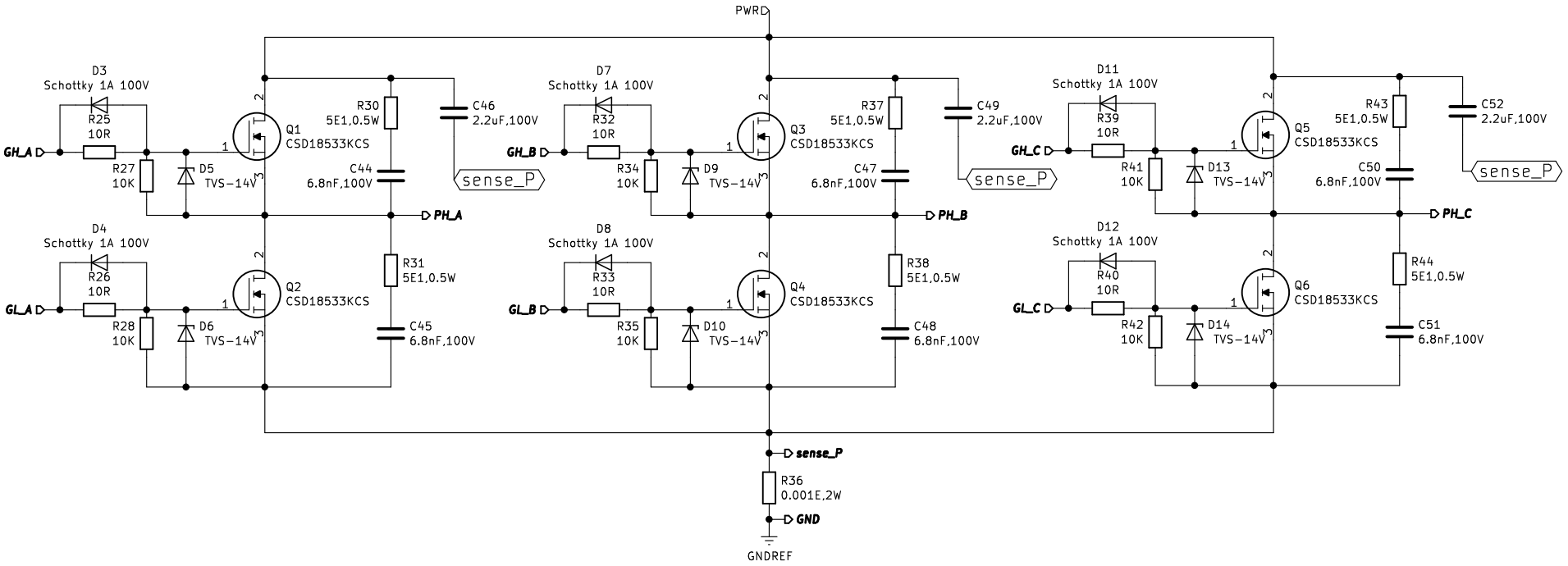
PCB design considerations:

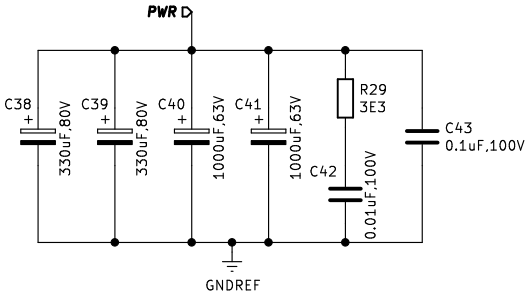
1. Keep C28 and C33 as close as possible with respective pins.
2. Place C33 >1uF if it involves fast load transients.
3. Use 0R or 500mA fuse.

-> Inductor L1 changed !
digikey Part no.: SRR1206-331KLTR-ND

-> 5V Regulator U4 changed !
digikey Part no.: NCP1117LPST50T3GOSCT-ND

Design by: Jesal Patel		
Status : Ongoing Design		
Greenvolt Mobility L.L.P.		
Sheet: /Powersupply/		
File: Powersupply.sch		
Title: DRV08		
Size: A4	Date: 2019-06-14	**Rev: V08**
KiCad E.D.A. kicad (5.1.9)-1		Id: 5/9



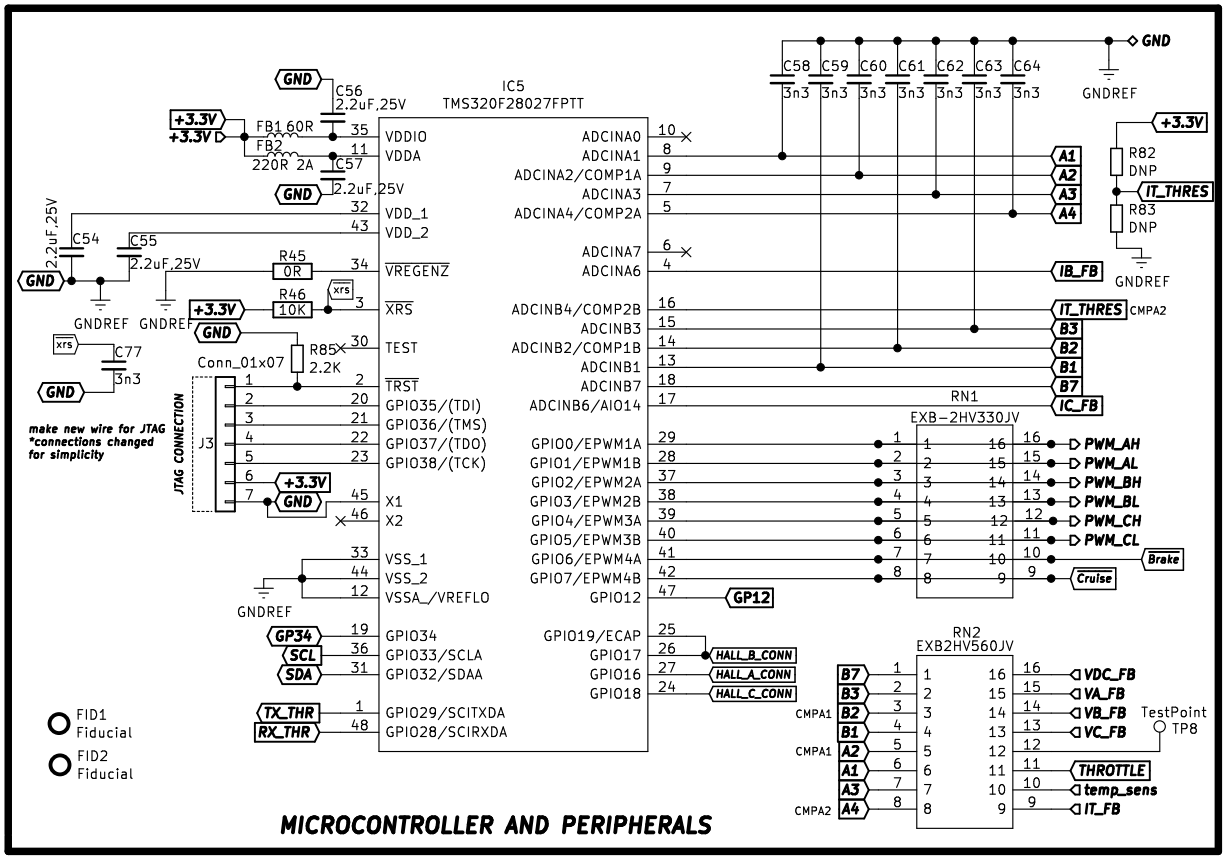


Design by: Jesal Patel
Status : Ongoing Design
Greenvolt Mobility L.L.P.

Sheet: /3Phase_Inverter/
File: 3Phase_Inverter.sch

Title: DRV08

Size: A4	Date: 2019-06-14	**Rev: V08**
KiCad E.D.A. kicad (5.1.9)-1		Id: 6/9



MICROCONTROLLER AND PERIPHERALS

HALL SHIFTER CIRCUIT

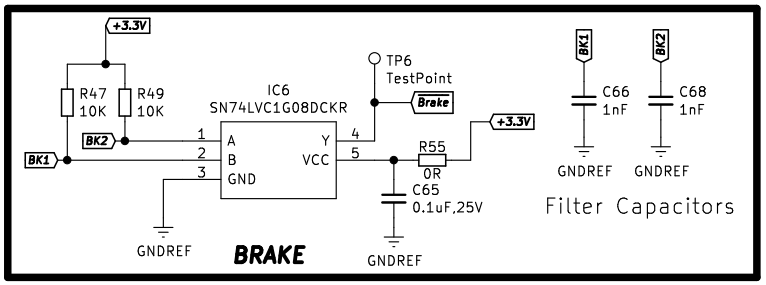
Sheet: HALL_SHIFTER_IC

Sheet: HALL_SHIFTER_TRANSISTOR

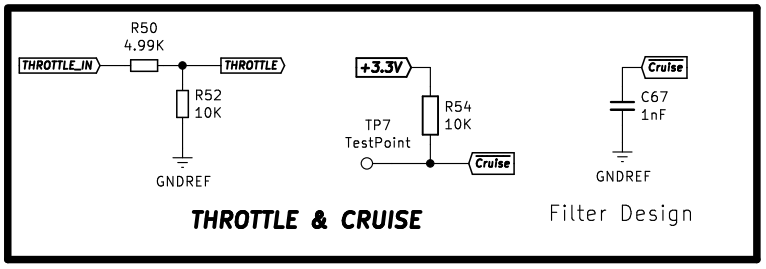
Footprint assigned

File: HALL_SHIFTER_IC.sch File: HALL_SHIFTER_TRANSISTOR.sch

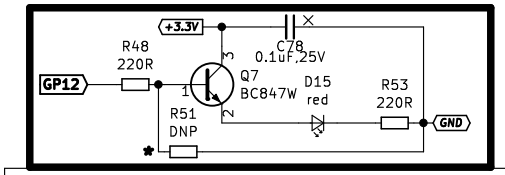
Assign footprint to the components
associated with any of the circuits to be implemented



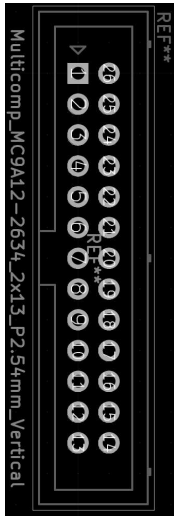
BRAKE

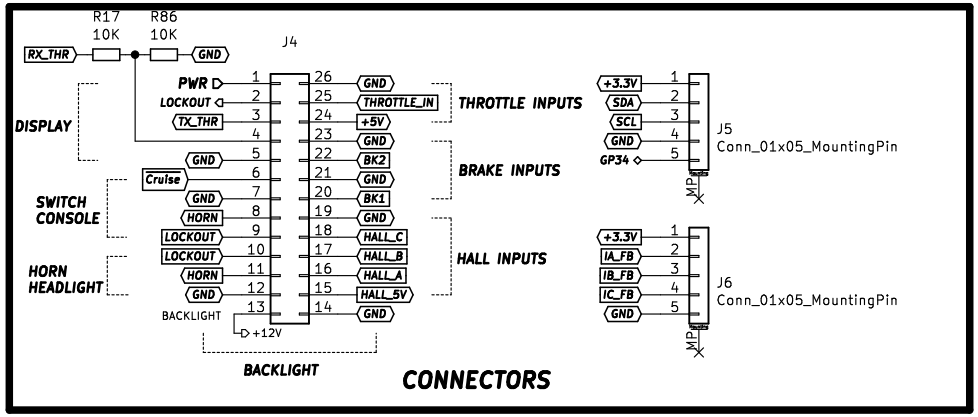


THROTTLE & CRUISE



LED indication
Need to program
GPIO 12 as needed.





CONNECTORS

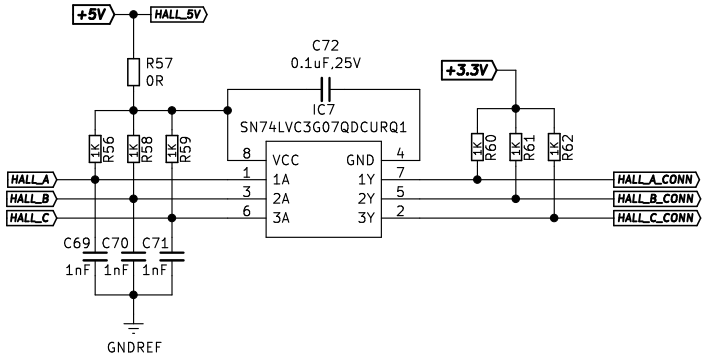
*** — Do not Populate**

Design by: Jesal Patel
Status : Ongoing Design
Greenvolt Mobility L.L.P.

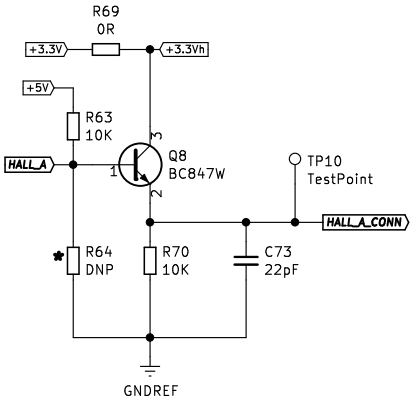
Sheet: /Microcontroller & Peripherals/
File: Microcontroller & Peripherals.sch

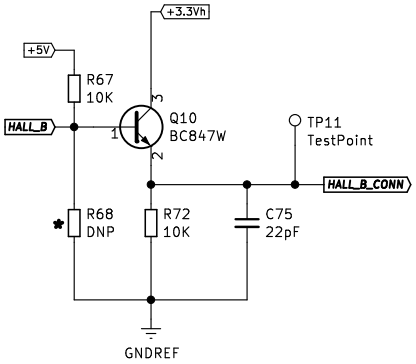
Title: DRV08

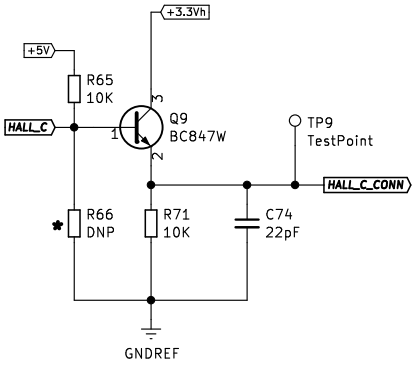
Size: A4	Date: 2019-06-14	**Rev: V08**
KiCad E.D.A. kicad (5.1.9)-1		Id: 7/9

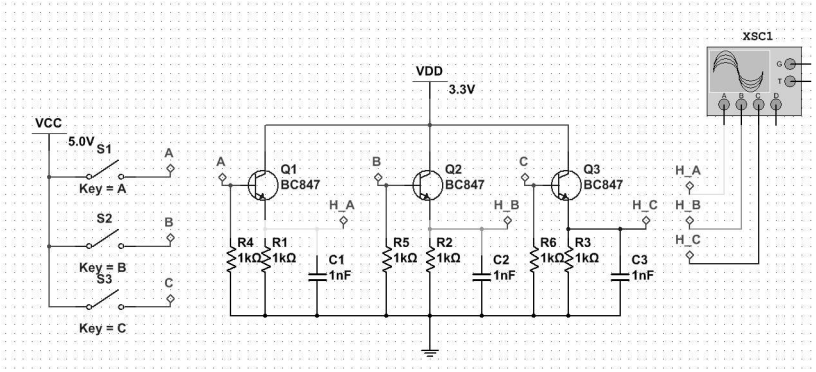


Sheet: /Microcontroller & Peripherals/HALL_SHIFTER_IC/		
File: HALL_SHIFTER_IC.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 8/9









BC847W
digikey part number.: 1727-4854-1-ND

***** – Do not populate if needed add 1K**

Sheet: /Microcontroller & Peripherals/HALL_SHIFTER_TRANSISTOR/
File: HALL_SHIFTER_TRANSISTOR.sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 9/9