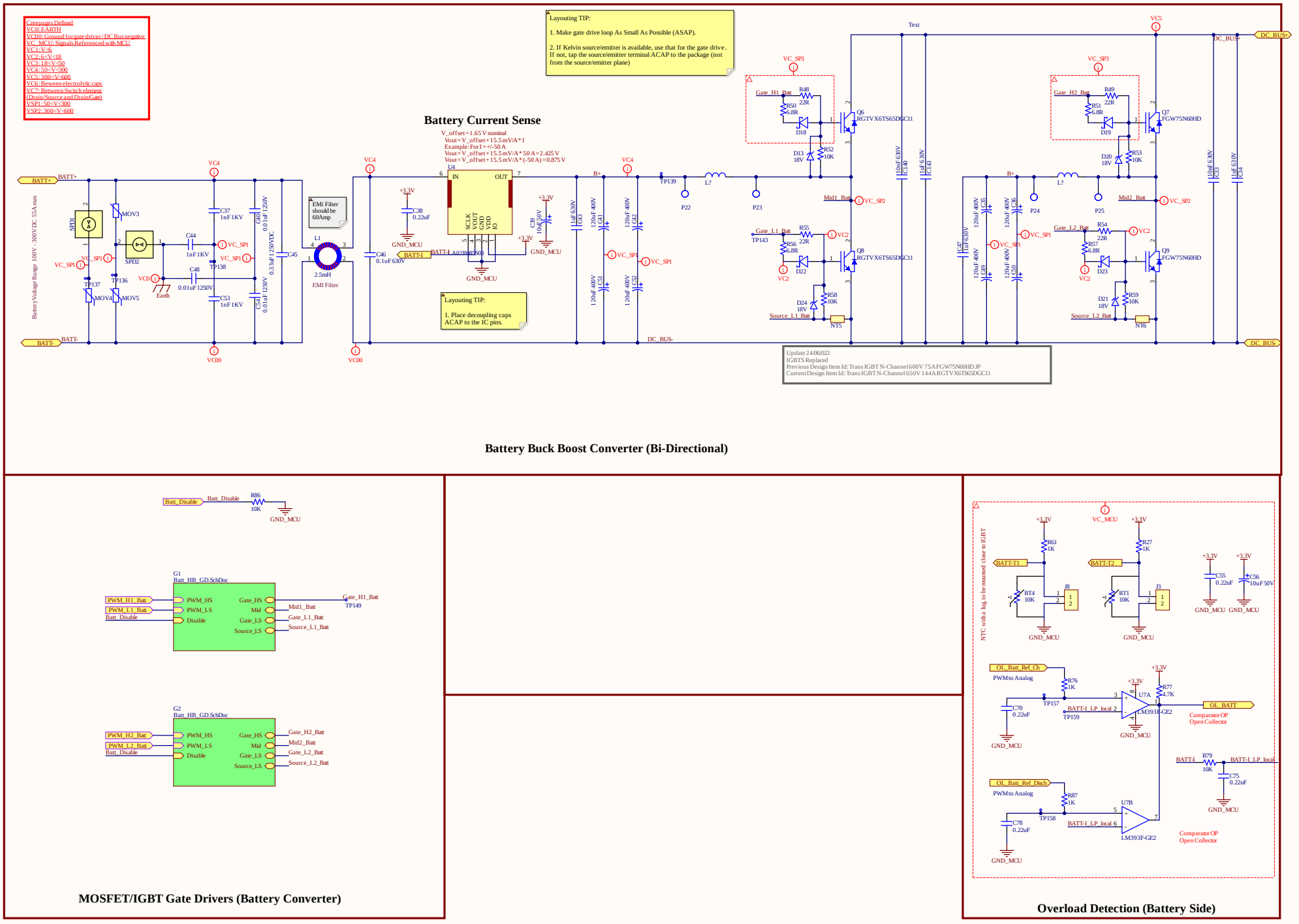
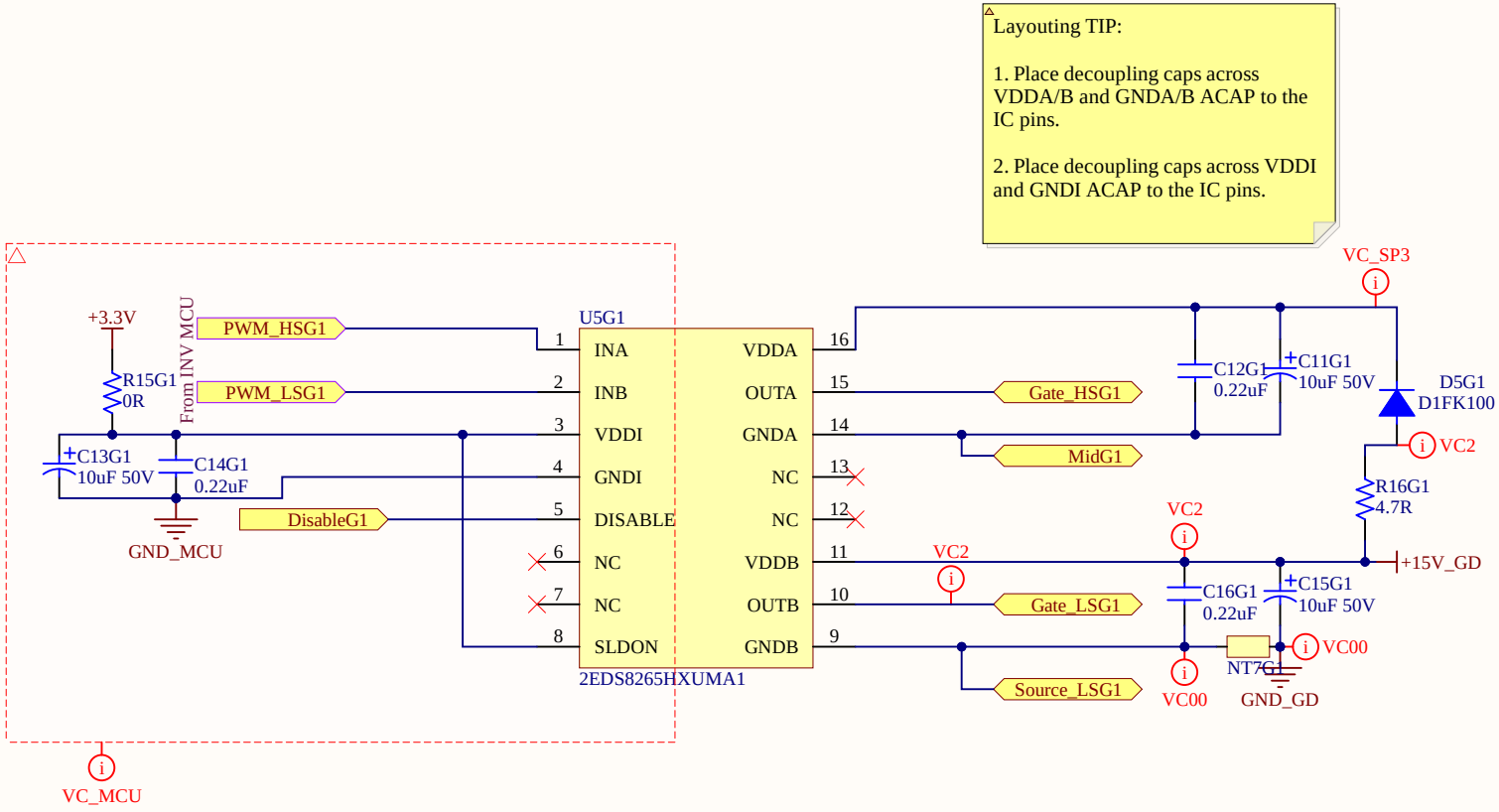

Creepages Defined
VC0: EARTH
VC00: Ground for gate driver / DC Bus negative
VC_MCU: Signals Referenced with MCU
VC1:V<6
VC2: 6<V<18
VC3: 18<V<50
VC4: 50<V<300
VC5: 300<V<600
VC6: Beween electrolytic caps
VC7: Between Switch element (Drain/Source and Drain/Gate)
VSP1: 50<V<300
VSP2: 300<V<600
Layouting TIP:
1. Make gate drive loop As Small As Possible (ASAP).
2. If Kelvin source/emitter is available, use that for the gate drive. If not, tap the source/emitter terminal ACAP to the package (not from the source/emitter plane)
Battery Current Sense
V_offset = 1.65 V nominal
Vout = V_offset + 15.5 mV/A * I
Example: For I = +/-50 A
Vout = V_offset + 15.5 mV/A * 50 A = 2.425 V
Vout = V_offset + 15.5 mV/A * (-50 A) = 0.875 V
Battery Voltage Range 100V - 300V DC 55A max
EMi Filter should be 60Amp
2.5mH
EMI Filter
Layouting TIP:
1. Place decoupling caps ACAP to the IC pins.
Update 24/06/022
IGBTS Replaced
Previous Design Item Id: Trans IGBT N-Channel 600V 75A FGW75N60HD JP
Current Design Item Id: Trans IGBT N-Channel 650V 144A RGTV X6TS65DGC11
Battery Buck Boost Converter (Bi-Directional)
Batt_Disable
PWM_H1_Batt
PWM_L1_Batt
PWM_H2_Batt
PWM_L2_Batt
PWM_HS
PWM_LS
Disable
Gate_HS
Mid
Gate_LS
Source_LS
MOSFET/IGBT Gate Drivers (Battery Converter)
NTC wrtha lug,to be mounted close to IGBT
PWM to Analog
Comparator OP Open Collector
Overload Detection (Battery Side)
Title Batt Converter
Size: C
Company: SkyElectric
Revision: 1.1
Date: 4/13/2023
Time: 3:06:16 PM
Sheet 3 of 20
Project: ABI_Board.PrjPcb



Title		
Size: A	Number	Revision
Date: 4/13/2023	Sheet of	
File: G:\.shortcut-targets-by-id\..\Batt_HB_GD.SchDoc	Drawn By:	