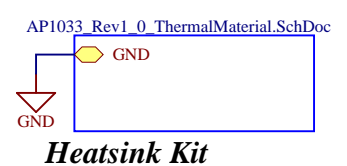
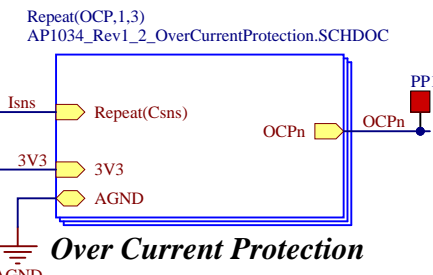
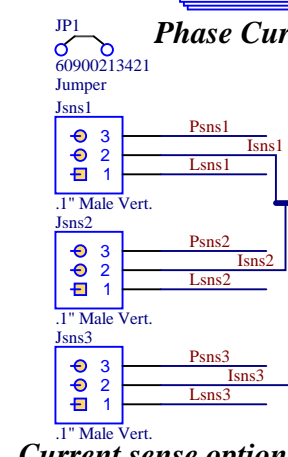
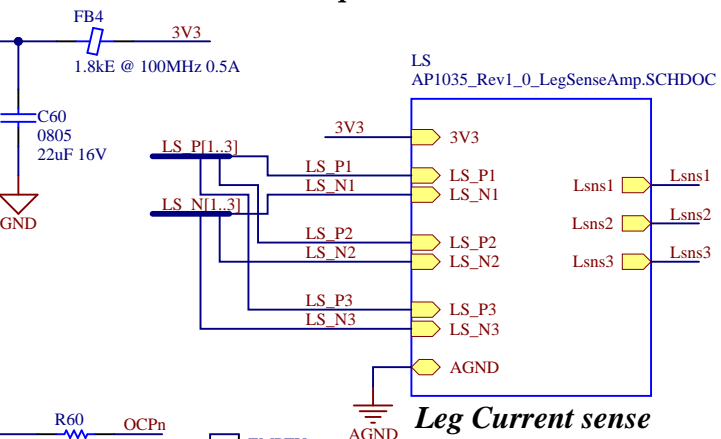
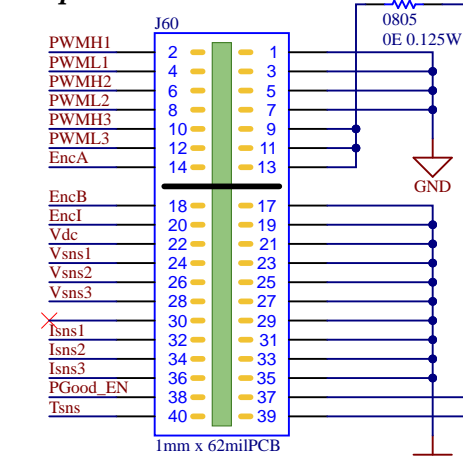


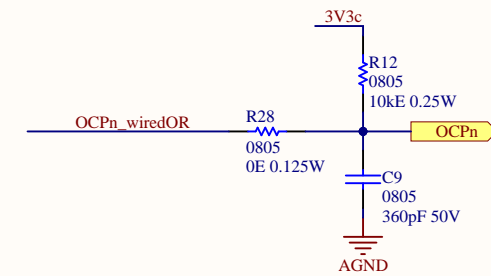
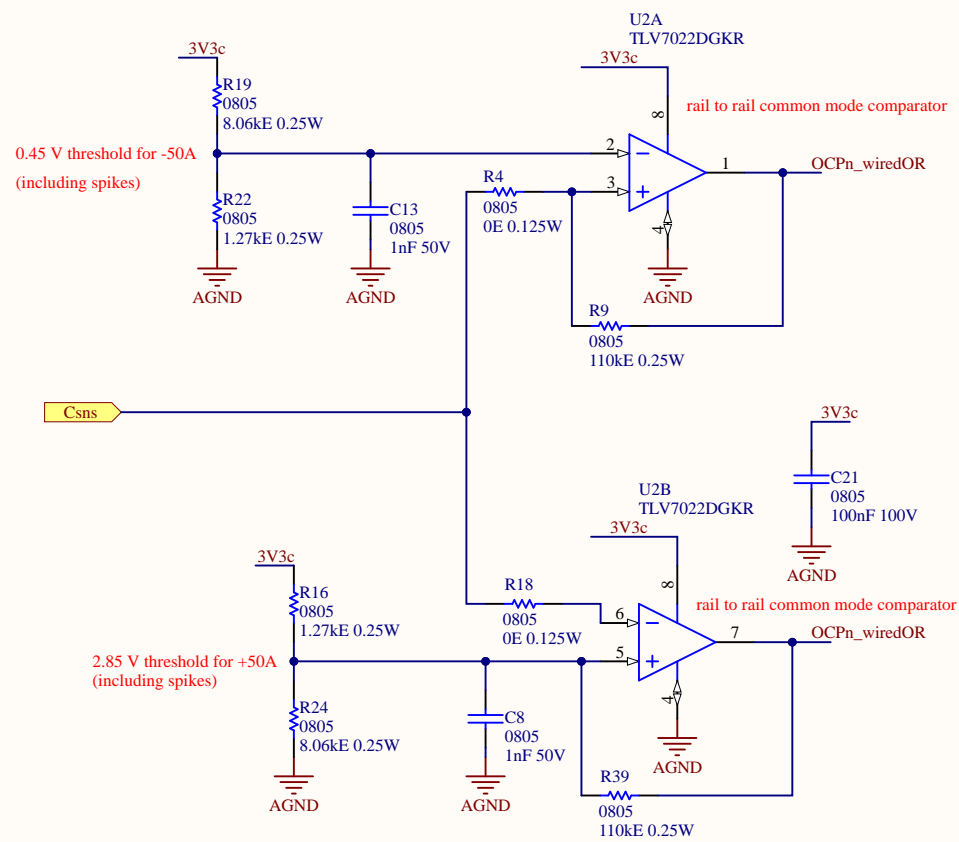
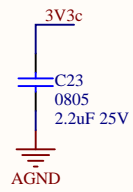
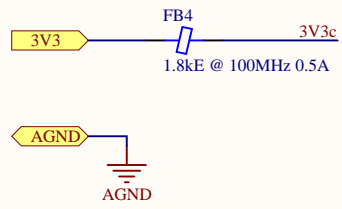
Option



For evaluation only;
not FCC approved for resale

3-phase motor drive board using EPC23101 power stage

Title EPC9173 B5328 Rev. 1.1a		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A	Revision: 1		
Date: 31-Aug-23	Sheet 1 of 13		
File: EPC9173_B5328_Rev1_1_Main.SCHDOC			



in case of multiple repetition of this scheme, mount only one pull up resistor and capacitor

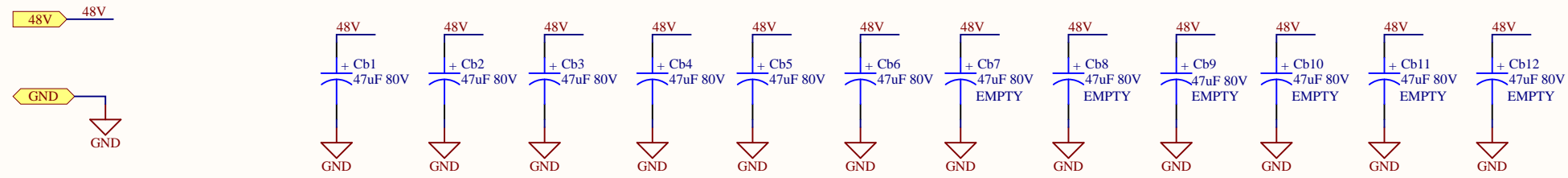
Bi-Directional Over Current Detection

Title AP1034 Rev. 1.2		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A	*	Revision: 1	
Date: 25-May-22		Sheet 2 of 13	
File: AP1034_Rev1_2_OverCurrentProtection.SCHDOC			



A

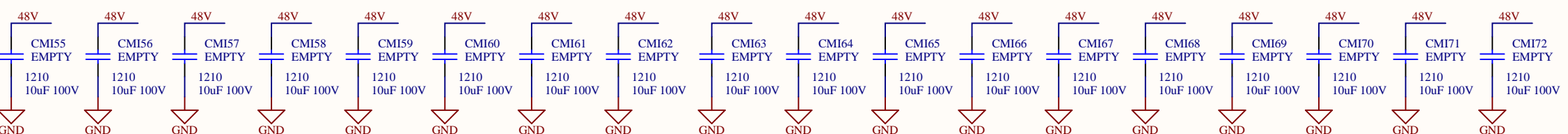
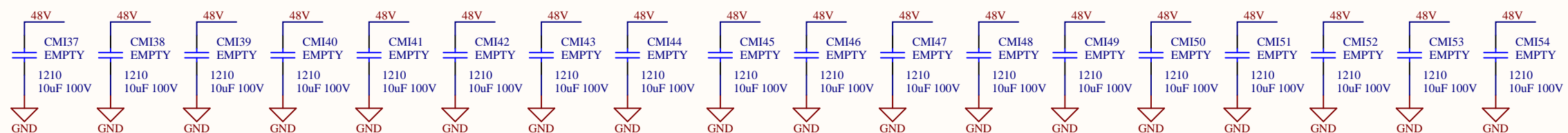
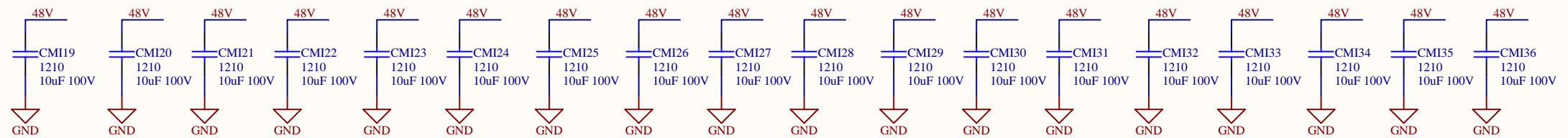
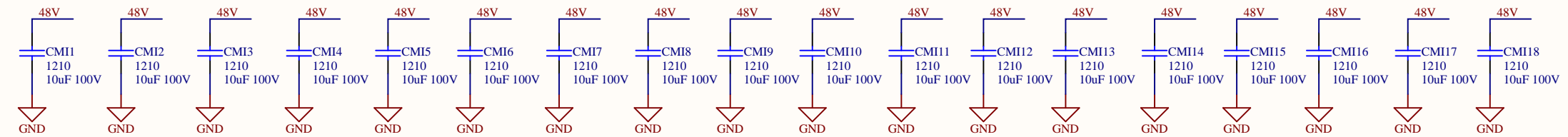
A



48 V Bulk Capacitors


B

B



48 V Medium Frequency Capacitors

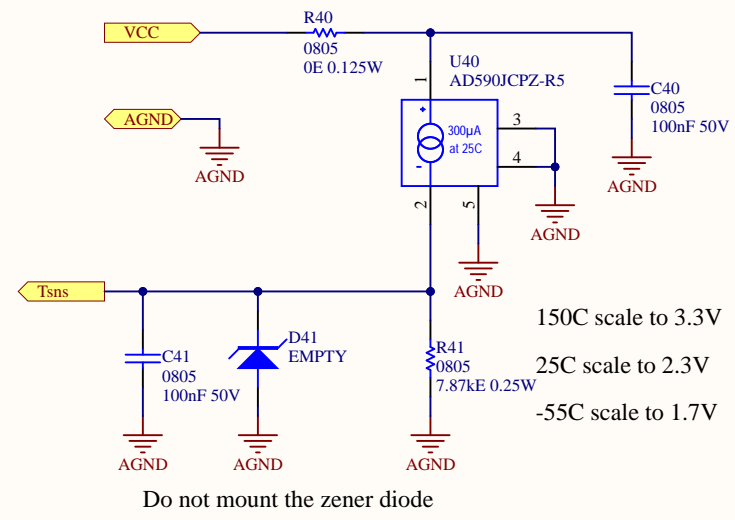
High Power Motor Drive DcBus Capacitors

Title AP1052 Rev. 1.0		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A	Revision: 1		
Date: 08-Apr-22	Sheet 3 of 13		
File: AP1052_Rev1_0_DcBusCapacitors.SCHDOC			

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D

D

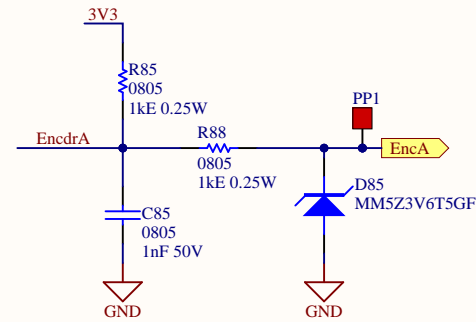
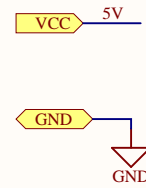


Temperature sense using AD590 with separate AGND

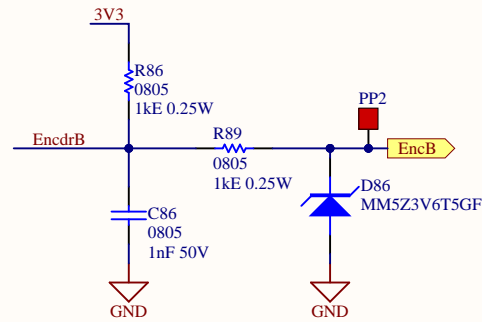
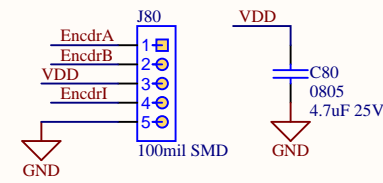
Title AP1009 Rev. 1.1		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A	*	Revision: 1	
Date: 08-Apr-22	Sheet 4 of 13		
File: AP1009_Rev1_1_TemperatureSense_AD590.SCHDOC			



A

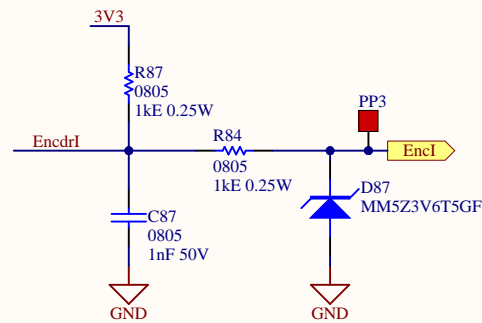
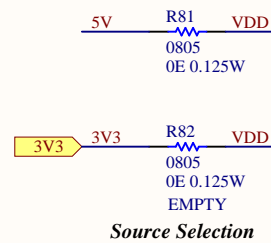


B




Shaft encoder connection
Quadrature with Index
Supports optical and hall

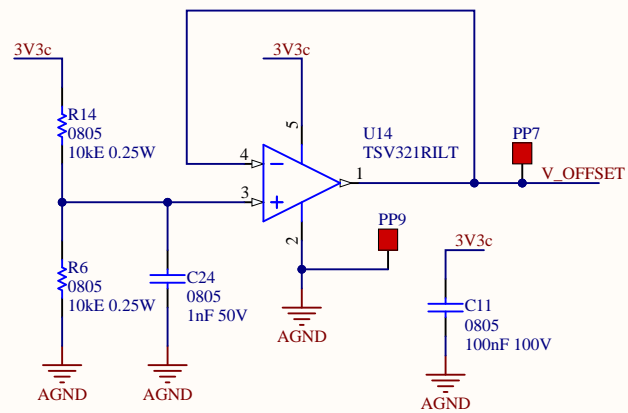
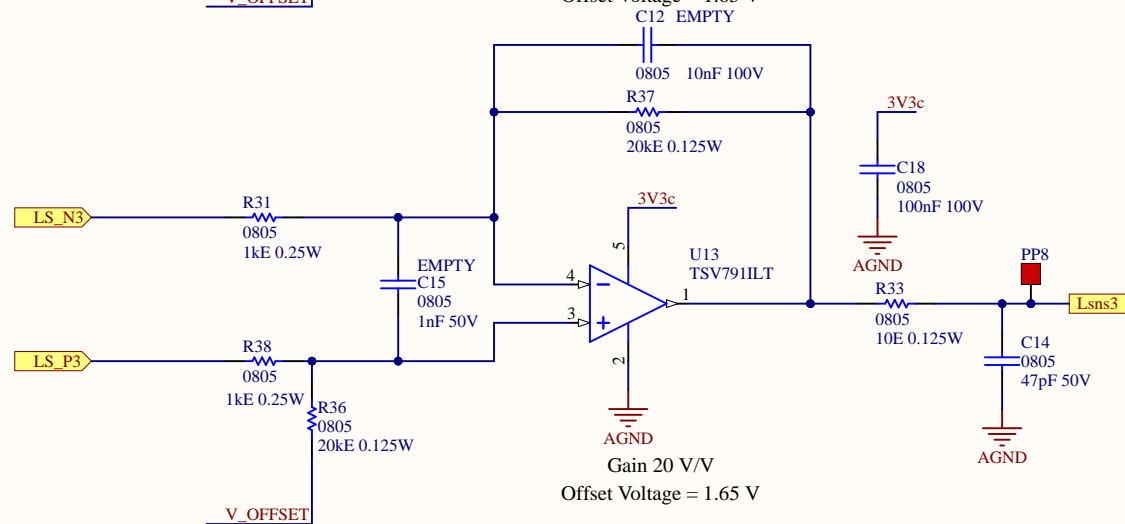
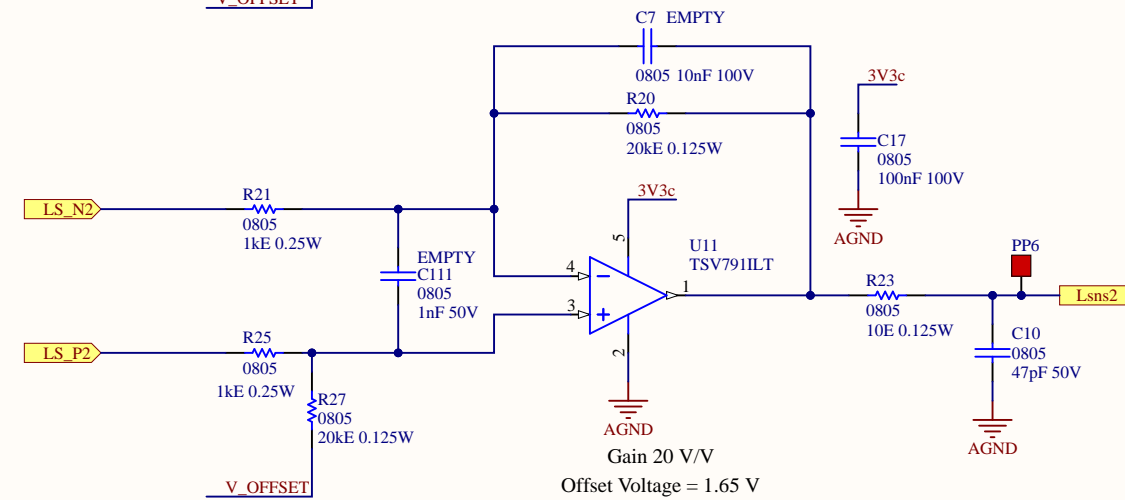
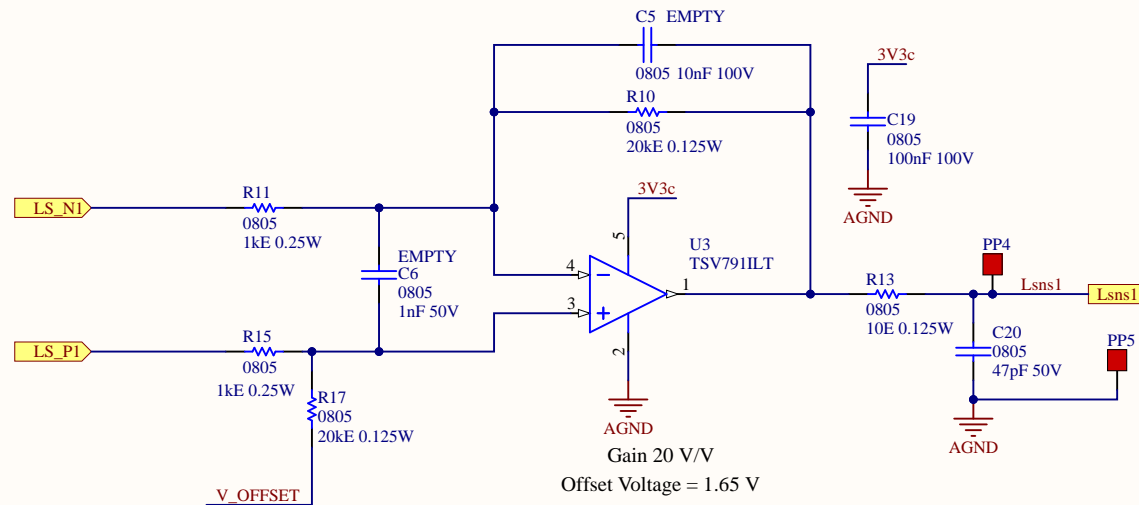
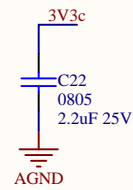
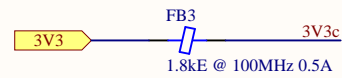
C



D

Quadrature Encoder Interface without 5V regulator

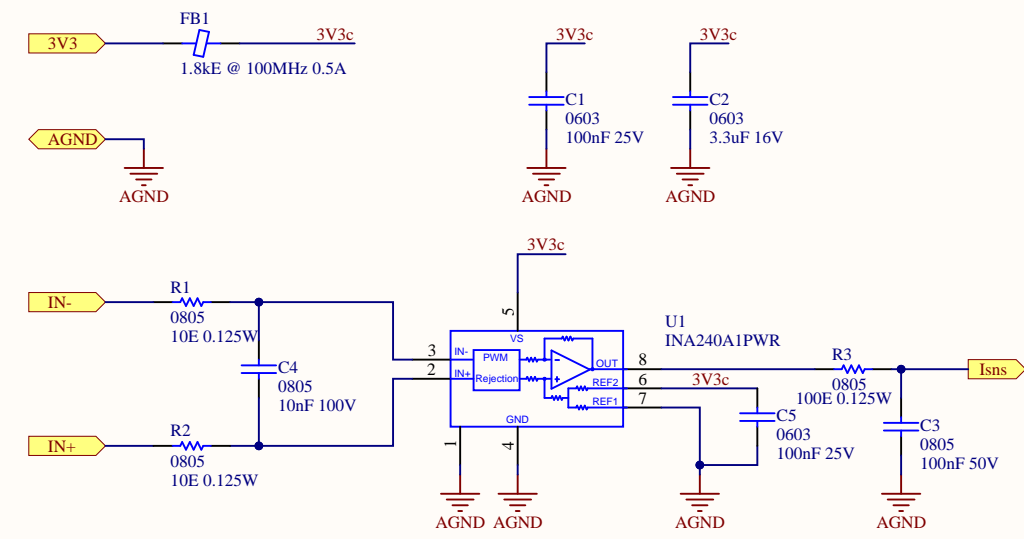
Title AP1005 Rev. 1.1		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A	*	Revision: 1	
Date: 08-Apr-22		Sheet 5 of 13	
File: AP1005_Rev1_1_QuadEncdr.SCHDOC			



Bi-Directional Leg Current Sense Amplifier

Title AP1035 Rev. 1.0		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A	*	Revision: 1	
Date: 08-Apr-22	Sheet 6 of 13		
File: AP1035_Rev1_0_LegSenseAmp.SCHDOC			

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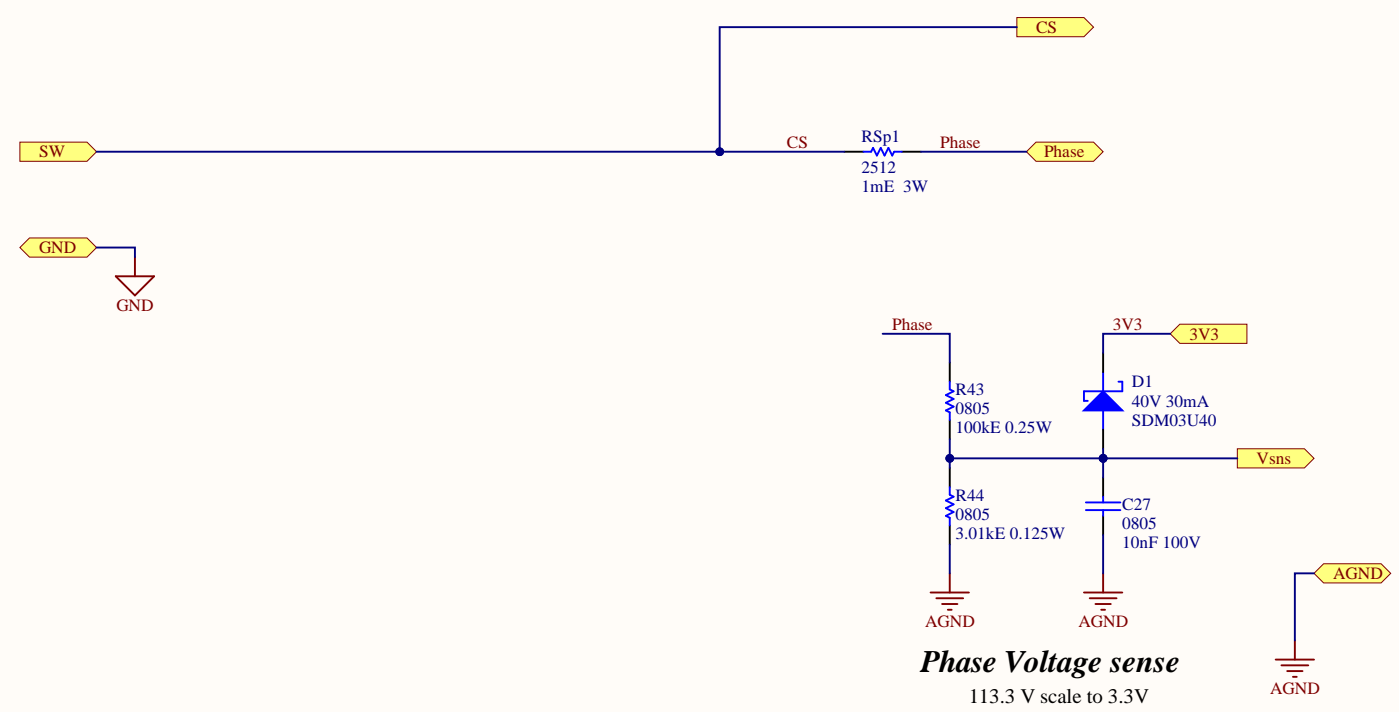
INA240A1PWR Gain 20V/V

Offset Voltage = 1.65 V

Bi-Directional 80 V Current Sense Amplifier

Title AP1004 Rev. 1.2		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A	*	Revision: 1	
Date: 08-Apr-22	Sheet 7	of 13	
File: AP1004_Rev1_2_CurrentSenseAmp.SCHDOC			



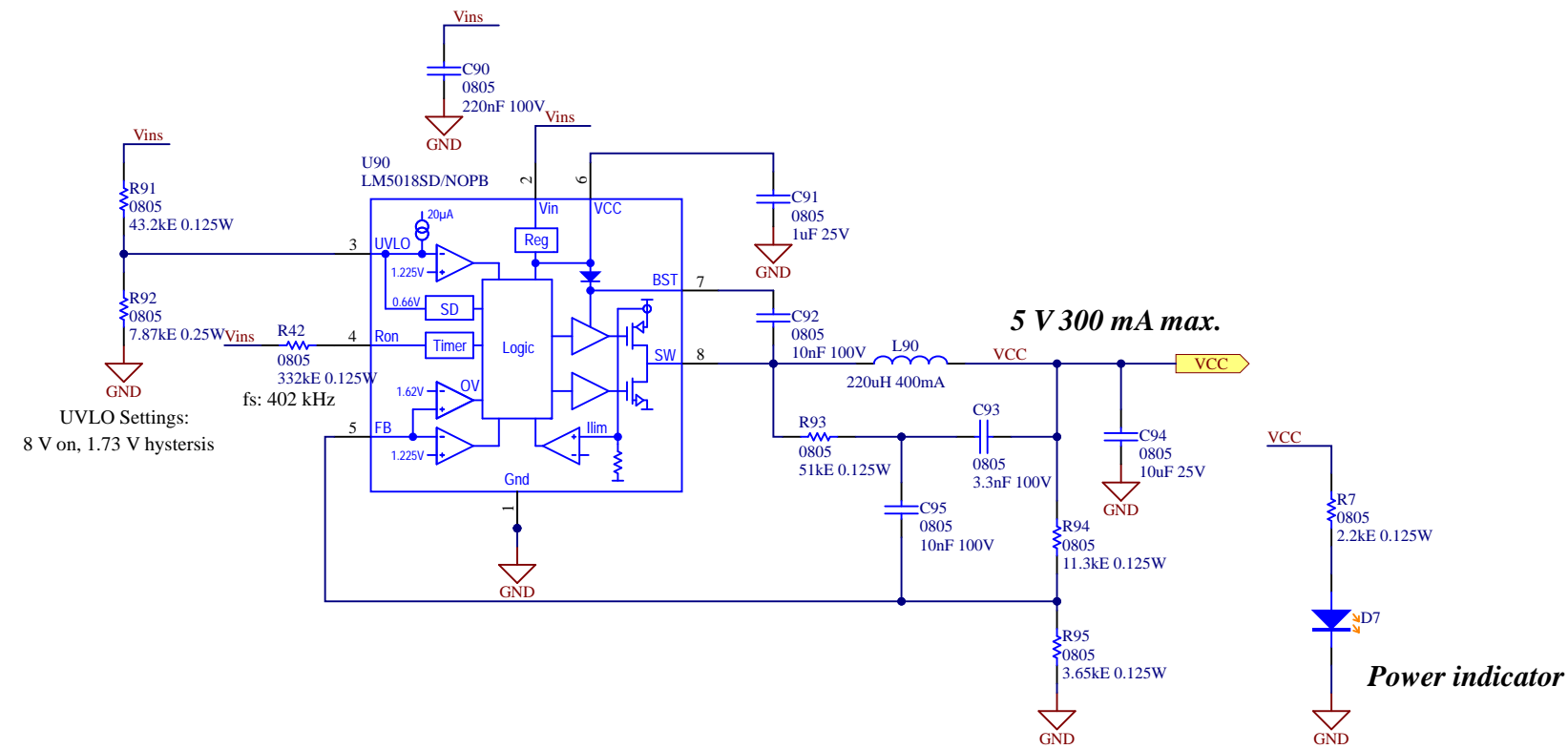
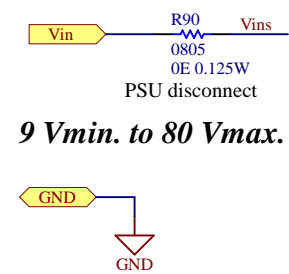


Phase Voltage sense
113.3 V scale to 3.3V

Phase Shunt and phase voltage sense

Title AP1037 Rev. 1.1		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A	*	Revision: 1	
Date: 25-May-22	Sheet 8 of 13		
File: AP1037_Rev1_1_PhaseShunt_wthV_Isns.SCHDOC			

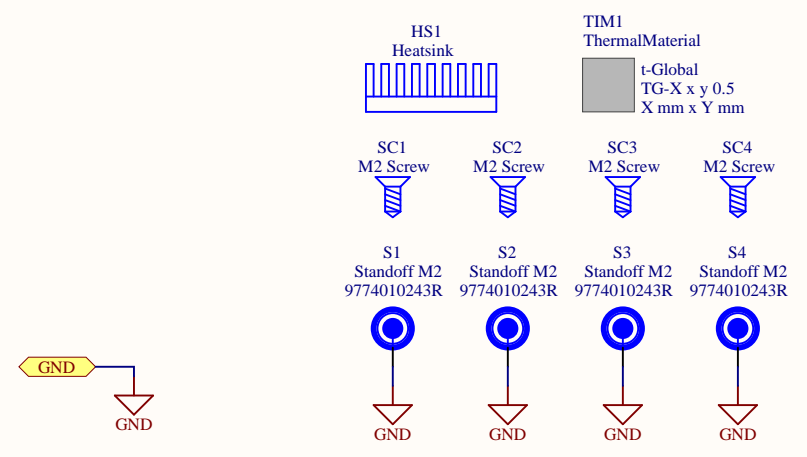


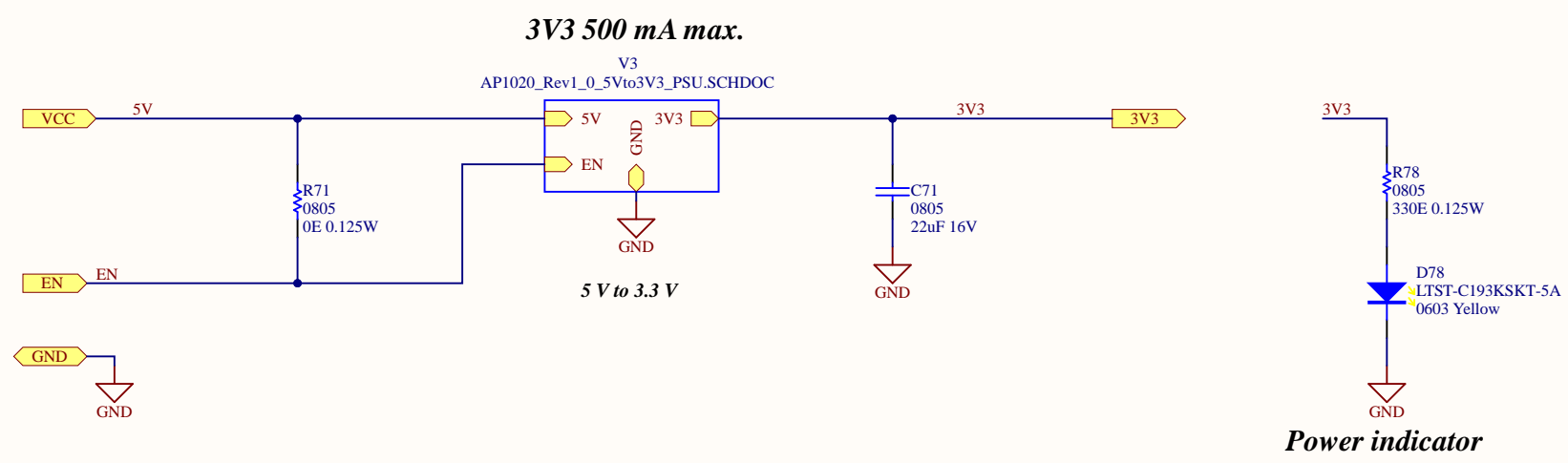


80 V to 5 V Housekeeping Power Supply


Title AP1011 Rev. 1.1		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A	*	Revision: 1	
Date: 08-Apr-22	Sheet 9 of 13		
File: AP1011_Rev1_1_80V_to_5V_PSU.SCHDOC			

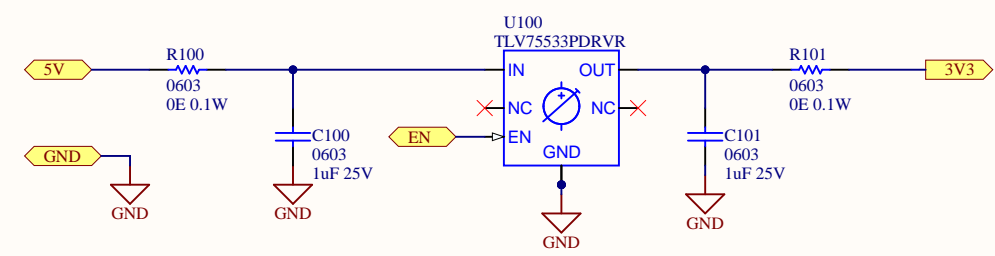
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5V to 3V3 LDO Housekeeping Power Supply

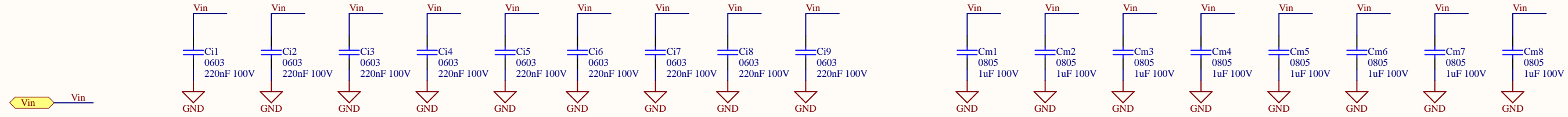
Title AP1051 Rev. 1.0		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A	*	Revision: 1	
Date: 08-Apr-22	Sheet 11 of 13		
File: AP1051_Rev1_0_5Vto3V3LDO_PSU.SCHDOC			



5 V to 3.3 V LDO power supply

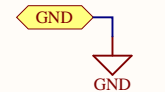
Title AP1020 Rev. 1.0		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A	*	Revision: 1	
Date: 08-Apr-22	Sheet 12 of 13		
File: AP1020_Rev1_0_5Vto3V3_PSU.SCHDOC			



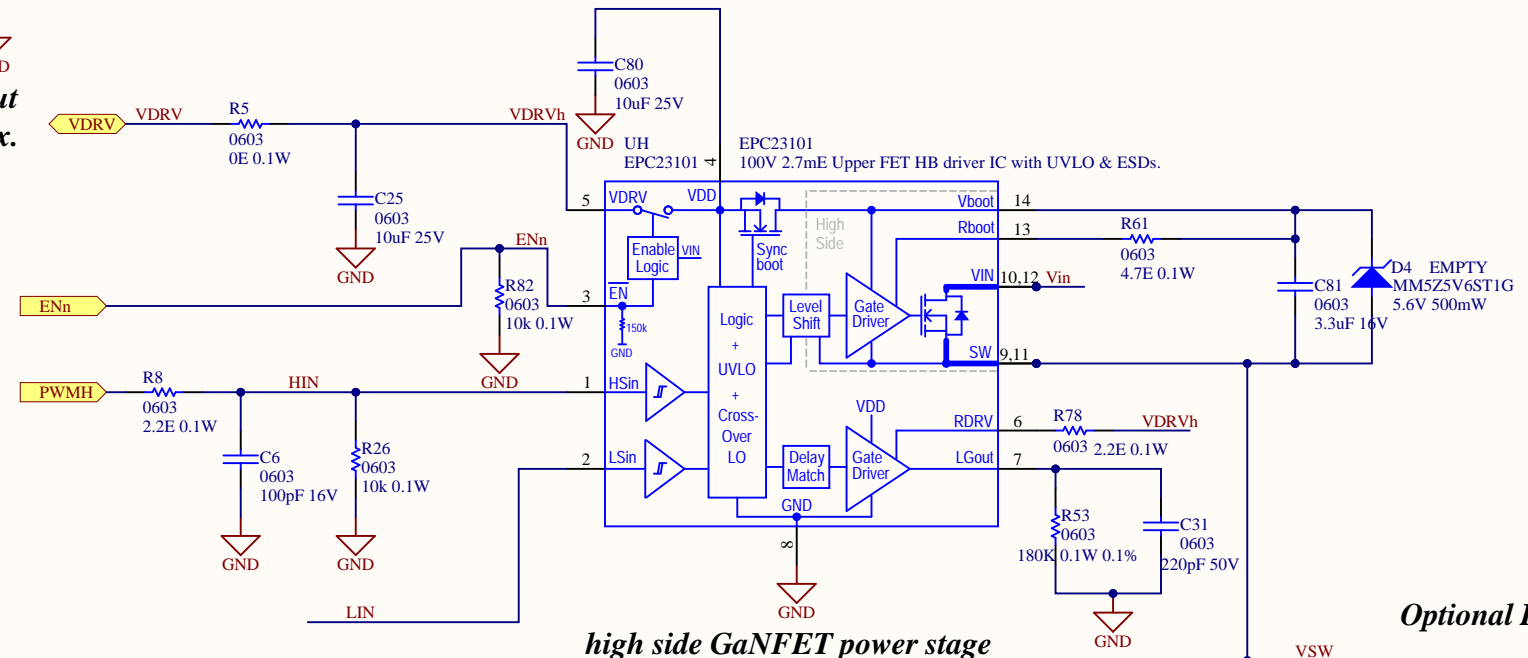


HF loop Capacitors

Intermediate Capacitors

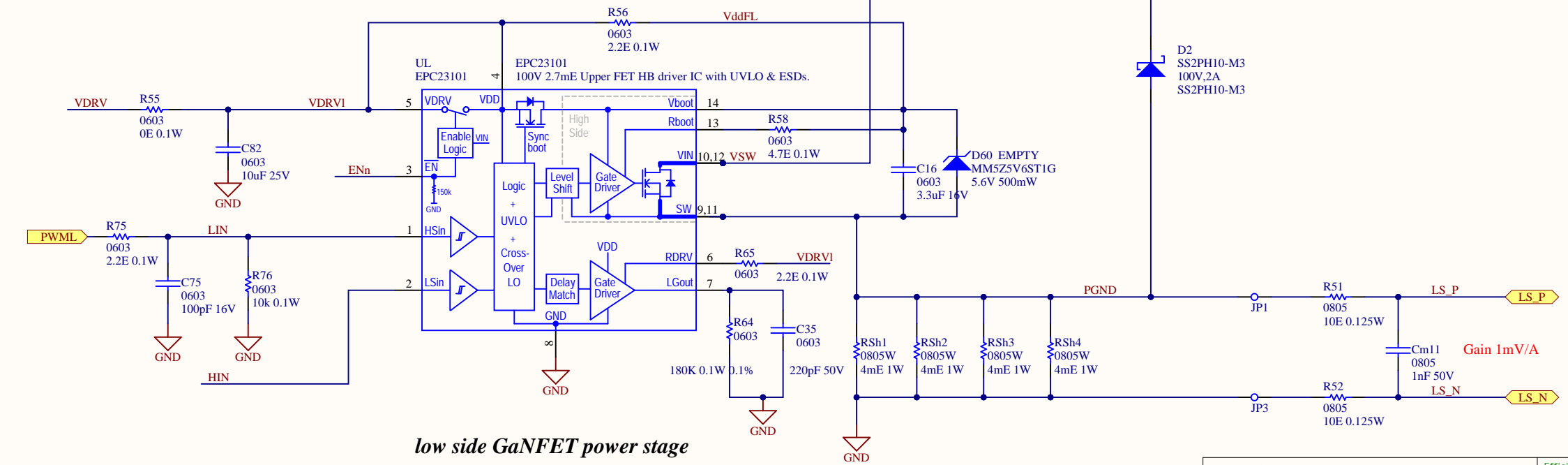


**DC Input
80 Vmax.**



high side GaNFET power stage

Optional Diodes



low side GaNFET power stage