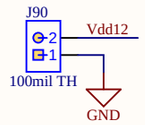
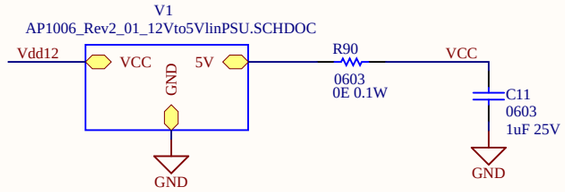
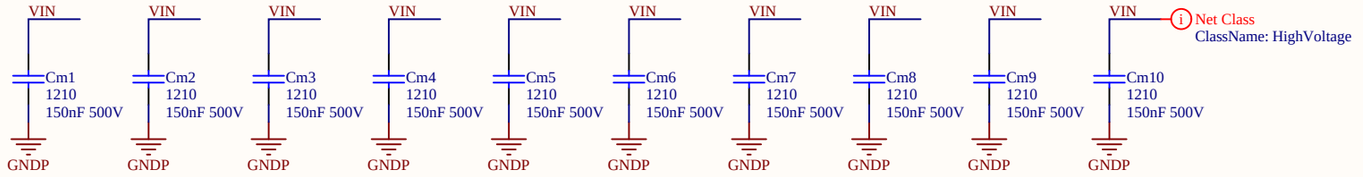


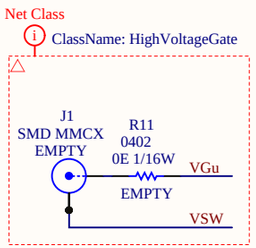
Logic Supply
10-15 VDC



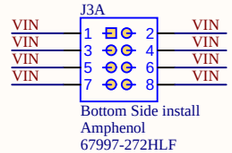
5 V Logic Regulator



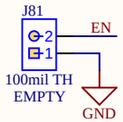
Intermediate Capacitors

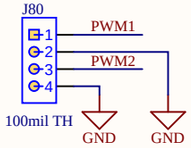


Upper Gate

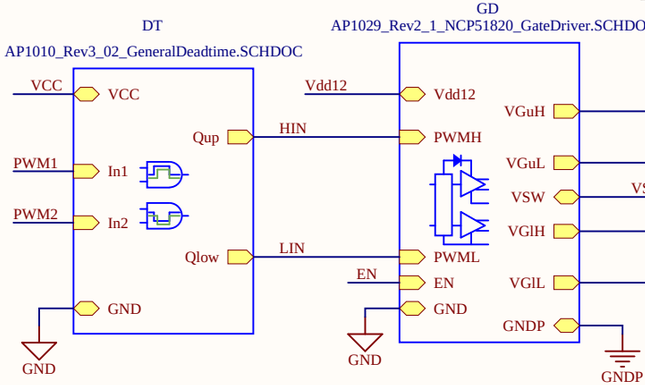


Main Supply Input

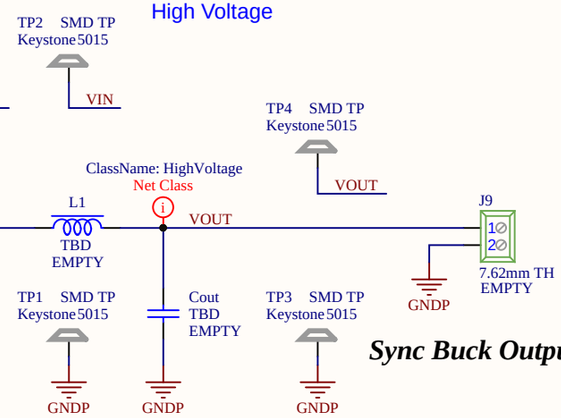




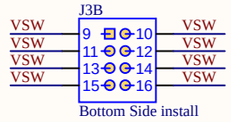
Signal Inputs



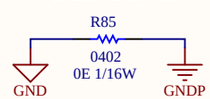
dead-time and buffers
Gate Driver
Power Stage



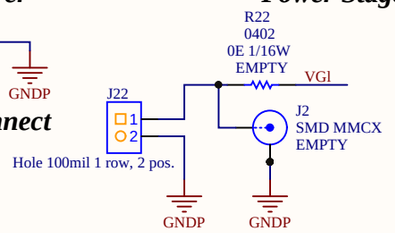
Sync Buck Output



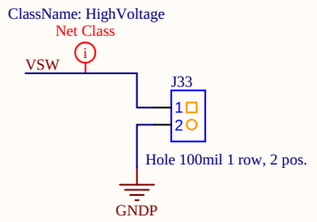
SW Output



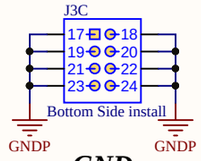
Ground Connect



Lower Gate



Switch-node

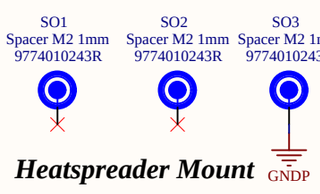


GND

For evaluation only;
not FCC approved for resale

PCB Fiducial

EPC90143 B5332 Rev. 1.0

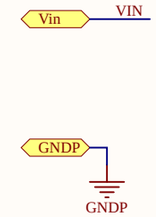


Heatspreader Mount

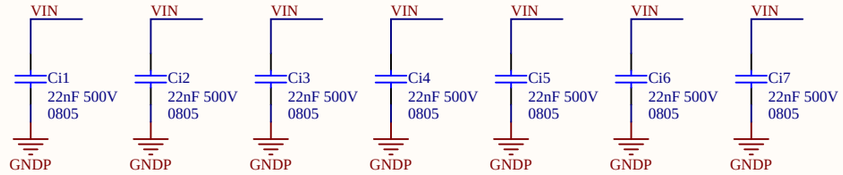
eGaN® FET

Evaluation Board for EPC2305

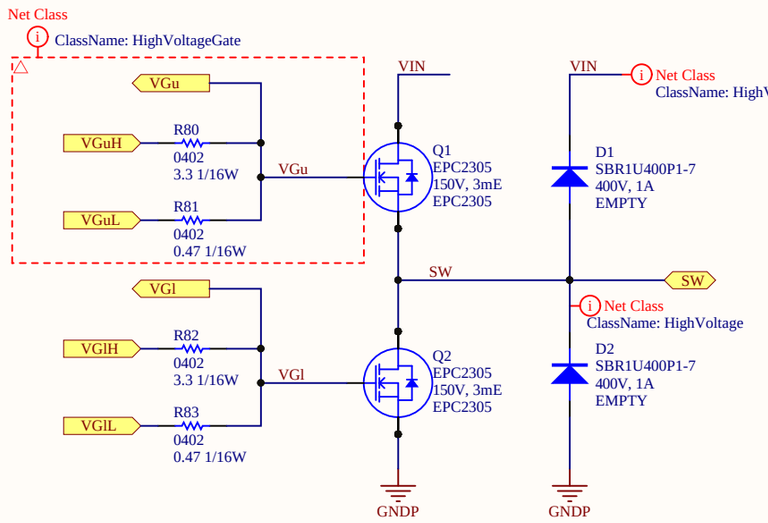
Title: EPC90143 B5332 Rev. 1.0		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A	* Revision: 1		
Date: 1/25/2022	Sheet 1 of 1		
File: EPC90143_B5332_Rev1_0.SCHDOC			



DC Input
120 Vmax.

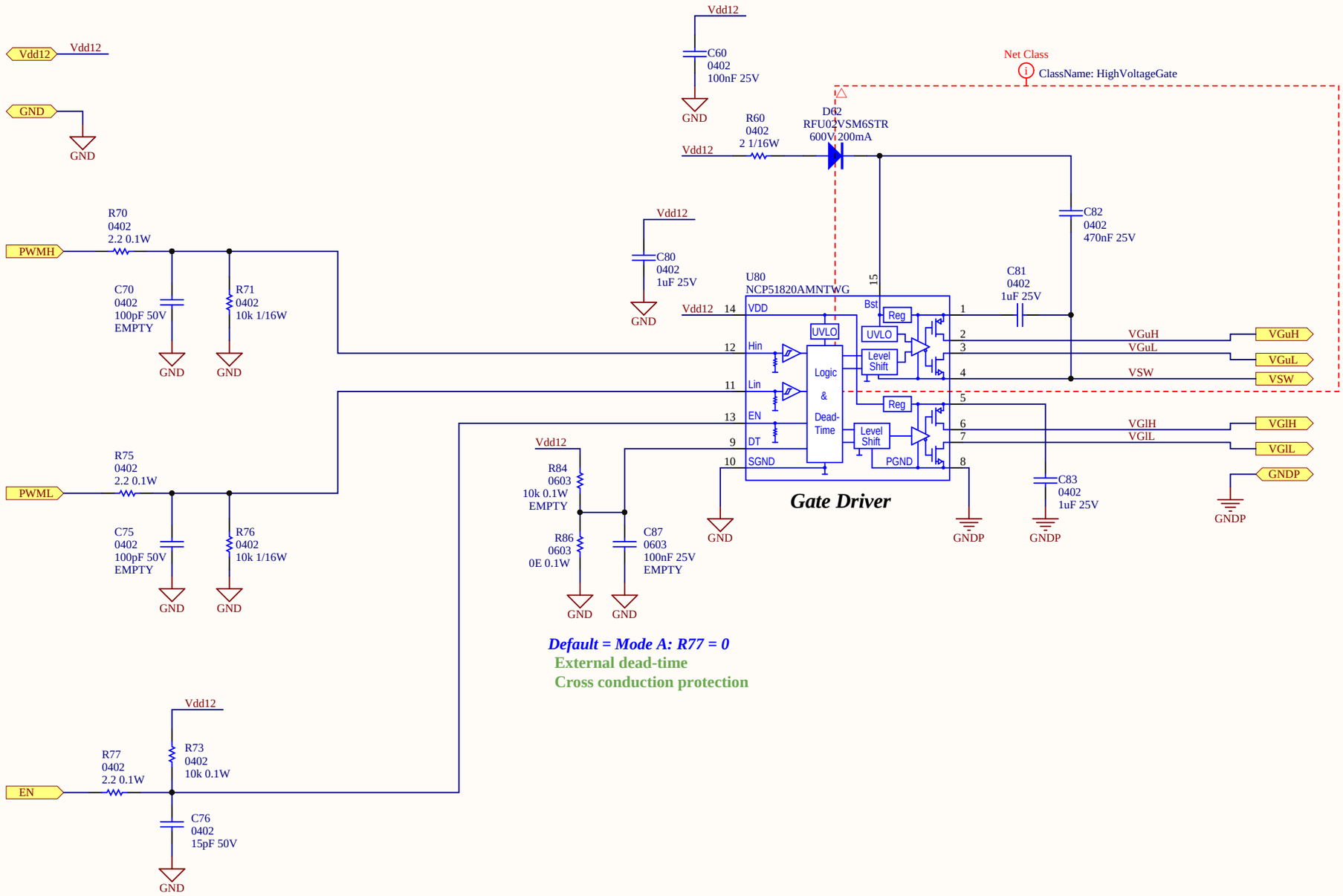


HF loop Capacitors



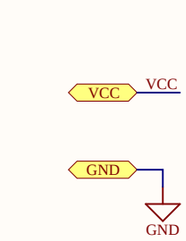
Power Stage ***Optional Diodes***

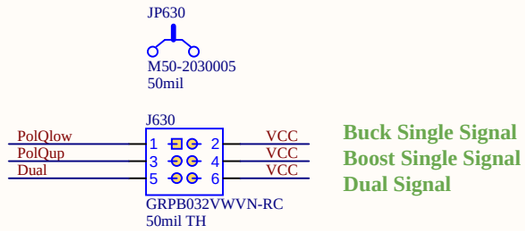
Title EPC2305 Phase Leg Rev. 1.0		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com	
Size: A *	Revision: 1		
Date: 1/25/2022	Sheet 1 of 1		
File: EPC2305_Rev1_0_PhaseLeg.SCHDOC			



650 V Gate Driver using NCP51820

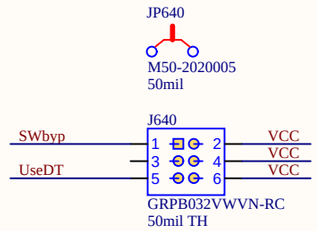
Title AP1029 Rev. 2.0		Efficient Power Conversion 909 N. Pacific Coast Hwy, Ste. 23 El Segundo, CA 90245 United States www.epc-co.com
Size: A *	Revision: 2	
Date: 5/19/2021	Sheet 1 of 1	
File: AP1029_Rev2_1_NCP51820_GateDriver.SCHDOC		





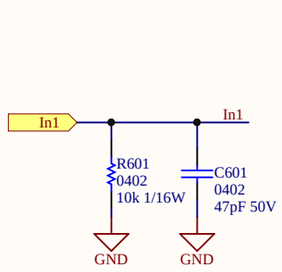
Buck Single Signal
Boost Single Signal
Dual Signal

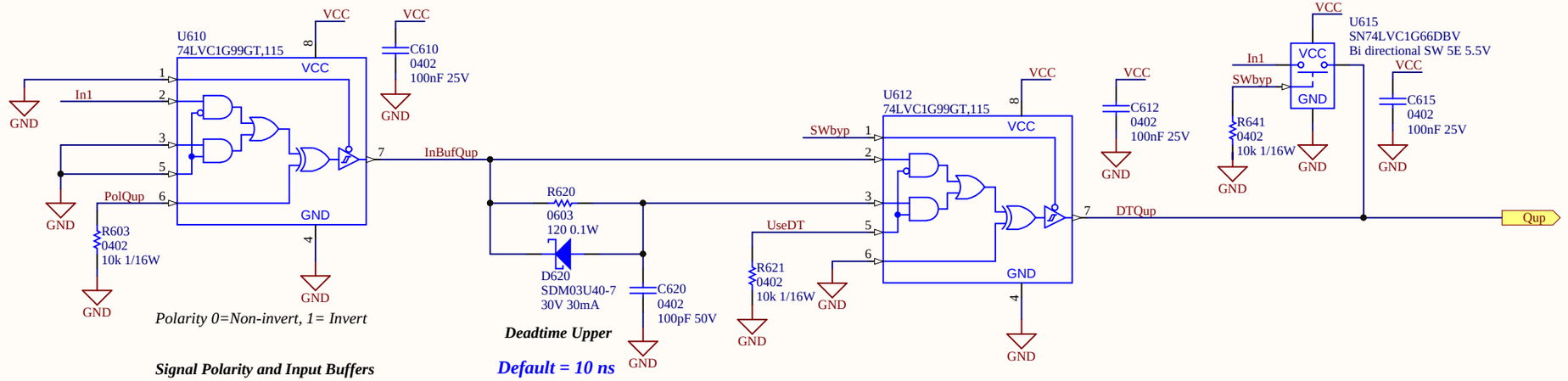
Dual/Single PWM, Buck, and Boost Mode Selector



Full Bypass
DT Bypass
No Bypass

Bypass Mode Select



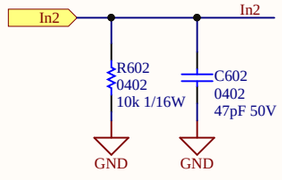


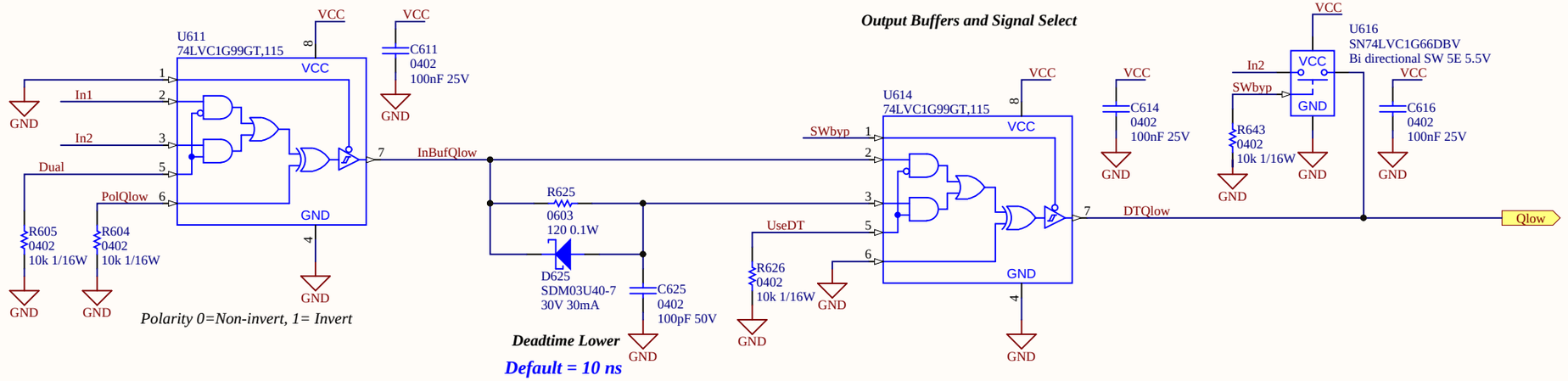
Polarity 0=Non-invert, 1= Invert

Signal Polarity and Input Buffers

Deadtime Upper

Default = 10 ns





Polarity 0=Non-invert, 1= Invert

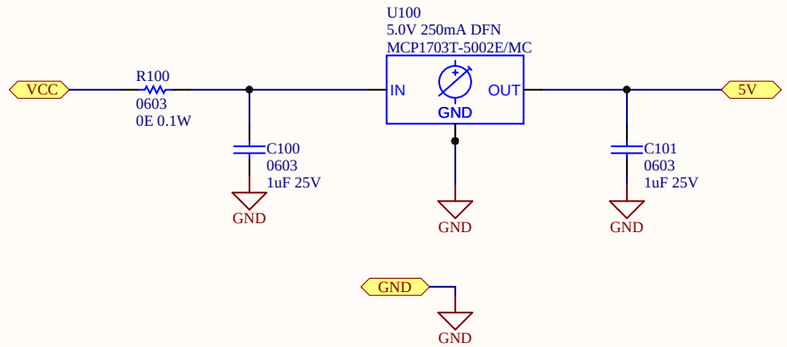
Output Buffers and Signal Select

Deadtime Lower

Default = 10 ns

General Dead-time with Polarity Changer and Bypass

Title AP1010 Rev. 3.0		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: 5/19/2021	Sheet 1 of 1	
File: AP1010_Rev3_02_GeneralDeadtime.SCHDOC		



12 V to 5 V LDO power supply

Title AP1006 Rev. 2.0		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: 5/19/2021	Sheet 1 of 1		
File: AP1006_Rev2_01_12Vto5VlinPSU.SCHDOC			