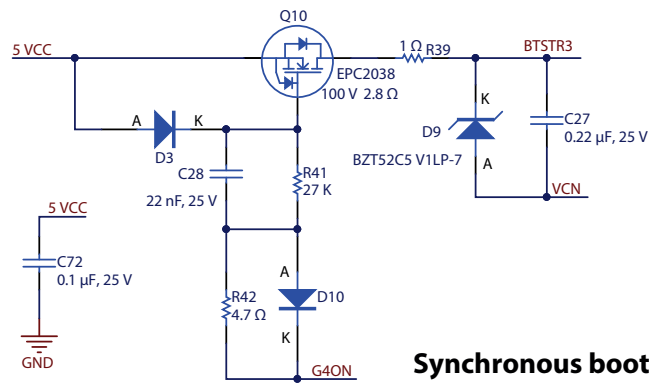
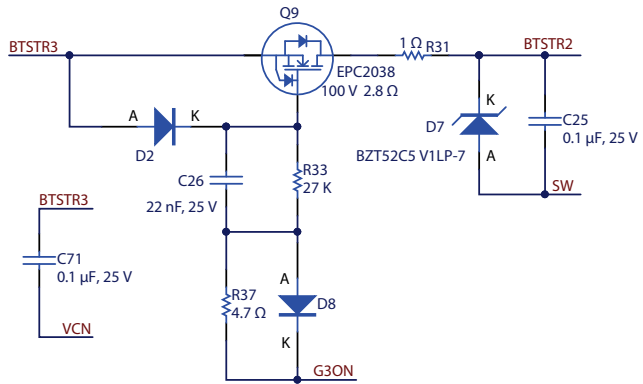
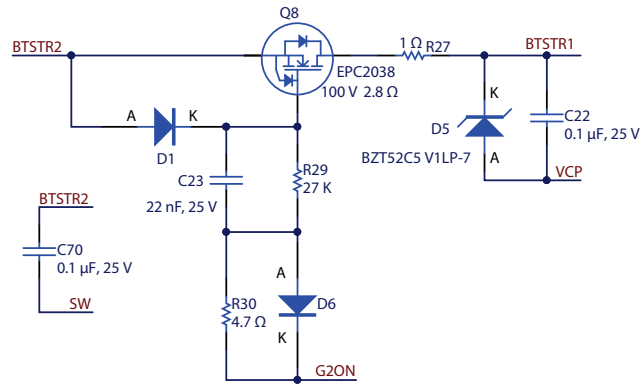
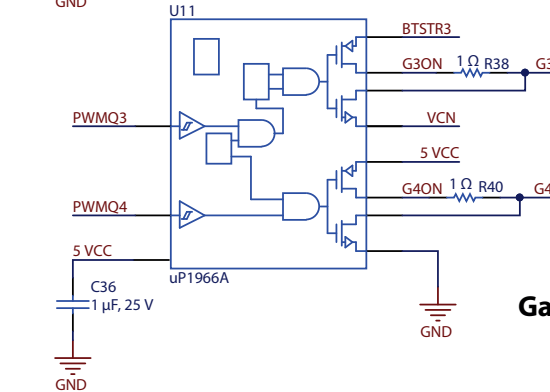
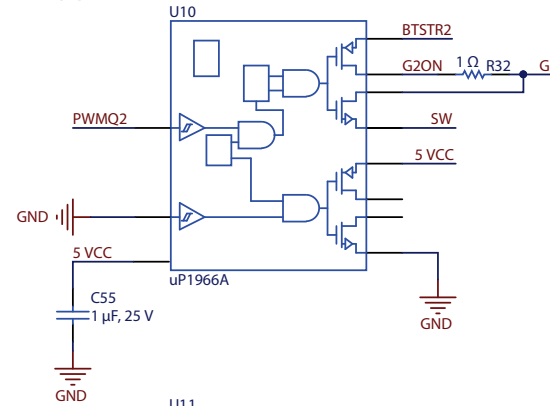
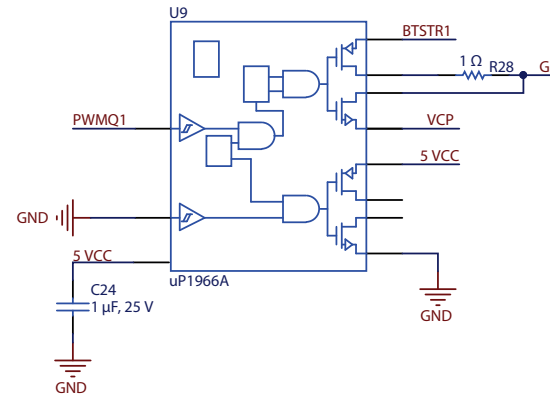


Figure 13: EPC9148 housekeeping power supply and controller schematic (1 of 3)

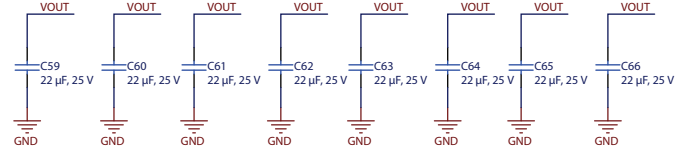
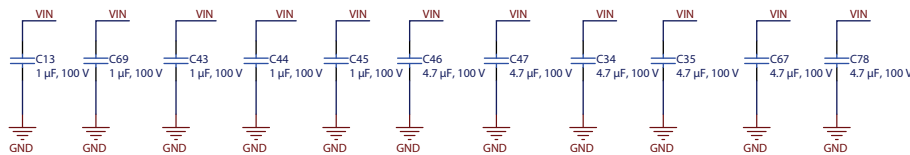
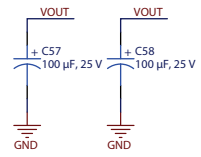
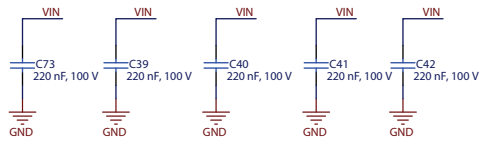


Synchronous bootstrap



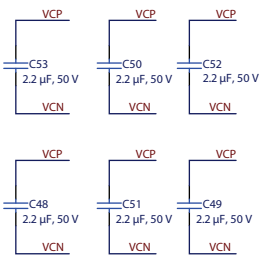
Gate driver circuit

Figure 14: EPC9148 gate driver schematic (2 of 3)

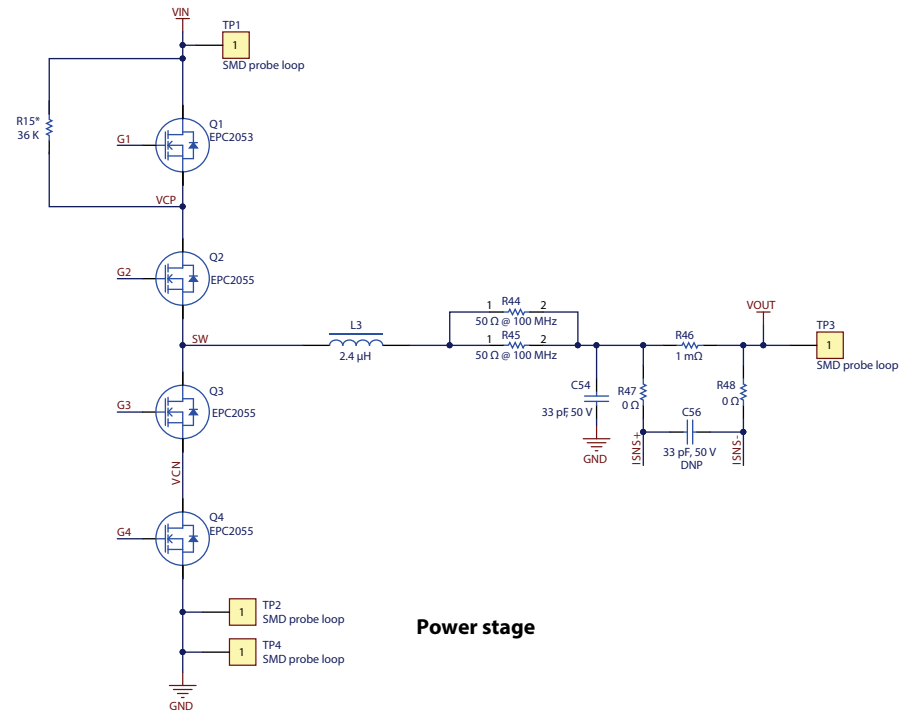


Input capacitors

Output capacitors

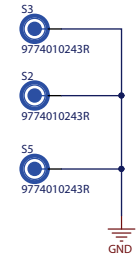


Flying capacitors



Power stage

* Start-up patent pending



Heatspreader Standoffs



Figure 15: EPC9148 power stage schematic (3 of 3)



EPC would like to acknowledge Microchip Technology Inc. (www.microchip.com) for their support of this project.

Microchip Technology Incorporated is a leading provider of smart, connected and secure embedded control solutions. Its easy-to-use development tools and comprehensive product portfolio enable customers to create optimal designs, which reduce risk while lowering total system cost and time to market. The company's solutions serve customers across the industrial, automotive, consumer, aerospace and defense, communications and computing markets.

The EPC9148 system features the **dsPIC33CK32MP102** 16-Bit Digital Signal Controller with High-Speed ADC, Op Amps, Comparators and High-Resolution PWM. Learn more at www.microchip.com.



EPC would like to acknowledge Würth Elektronik (www.we-online.com) for their support of this project.

Würth Elektronik is a premier manufacturer of electronic and electromechanical passive components. EPC has partnered up with WE for a variety of passive component requirements due to the performance, quality and range of products available. The EPC9148 development board features various WE product lines including power inductors, capacitors, and connectors.

One of the highlights on the board is a custom super-thin power inductor which helps to enable the power density of this design. Also featured on the board are the WE-LQS SMT power inductors, the WCAP-CSGP MLCC capacitors, and WR-PHD 1.27 mm SMT Dual Pin Header connectors. Learn more at www.we-online.com.