f)

Component selection is made by taking cost, performance and compatibility of the products into consideration. Transformer core is selected in part b.

United Chemi-Con EKXG201ELL101ML20S Capacitor is selected for snubber design. Its rated voltage is enough to suppress the voltage caused by leakage inductance current change.

SMC Diode Solutions SB5200TA diode is selected. Its reverse voltage should be at least

Selected diode’s maximum reverse voltage is 200 V. Diode current is 3.5 A at most drawn by load side, so maximum current of selected diode is 5A. Forward voltage drop is 1.1 V, which is reasonable to use with 48 V output.

IRF540NPBF-ND Mosfet is selected as switch. It has the capability of passing 33 A drain to source current and blocking 100 V drain to source voltage. Drain to source voltage drop of the Mosfet is about 1 V. In designed converter, switch is subject to 21 A drain to source current, 30 V reverse voltage blocking, which is met by selected Mosfet. Reverse recovery time of the Mosfet is 170 ns, which is suitable for 100 kHz switching.