

Schematic and Simulations

December 24, 2024 5:43 AM

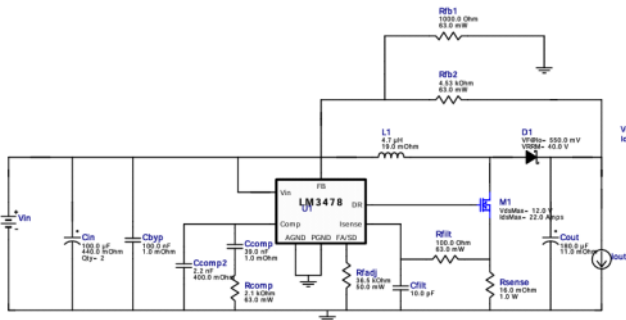


WEBENCH® Design Report

Design: 6 LM3478MM/NOPB
LM3478MM/NOPB 4V-6V to 7.0V @ 2A

VinMin = 4.0V
VinMax = 6.0V
Vout = 7.0V
Iout = 2.0A

Device = LM3478MM/NOPB
Topology = Boost
Created = 2024-11-15 08:36:49.843
BOM Cost = \$2.79
BOM Count = 17
Total Pd = 1.66W



1. With the low turn of voltage of the LM34x8 your power supply may current limit before you reach your working input voltage. If this happens, or to preempt this from happening, you can include a low pass RC filter from input voltage to Vin on the IC. Make sure the rise time on the RC network is slower than your supply's rise time.

Figure 1: Webench schematic with input voltage of 4-6V and output of 7V/2A.

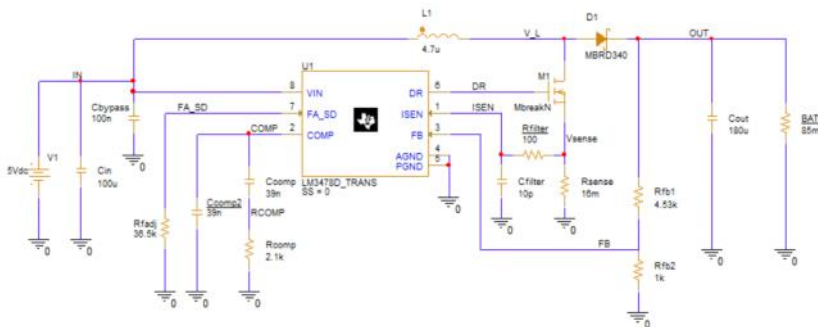


Figure 2: Pspice schematic.

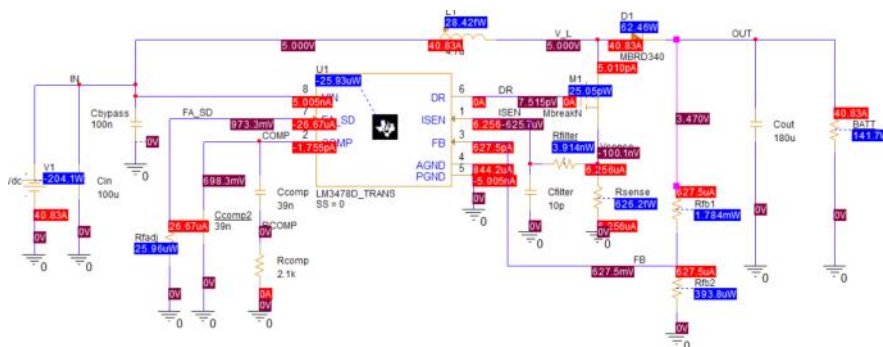


Figure 3: Bias point display of voltage, current, and power values

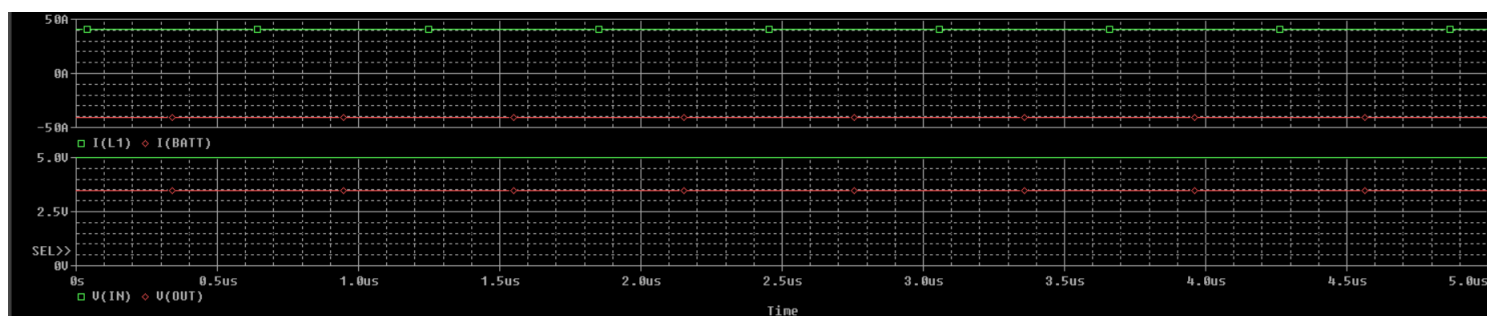


Figure 4: Transient response of input/output current (top plot) and voltage (bottom plot) respectively.