

For applications with strong airflow and / or lighter load currents:

Build on John Better's PCB PMP6680 rev A

CSD18531, CSD18533 & CSD18534 in same package should be considered for lower cost

UVLO: Low inductance / surface mount FETs must be used here, due to the high speed switching
Do not use TO-220 type FETs

For 30vout: airflow needed for load above 8.5A

turn on at 44Vin
turn off at 40Vin

TPS40170 control is Voltage Mode with FF with PWM gain of V_{in}/V_{ramp} about 15

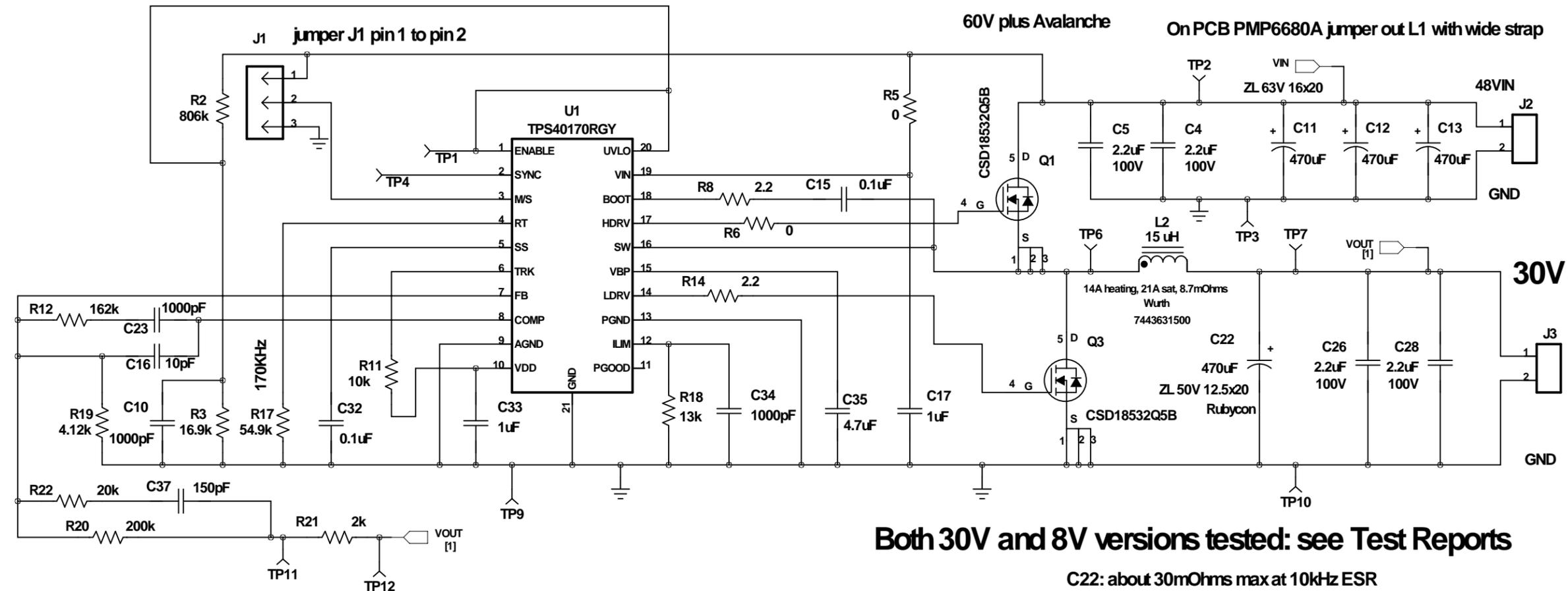
For 8vout: airflow needed for load above 9.5A

On PCB PMP6680A jumper TP1 to junction of R2/R3

FET ratings
4.3 mOhms

60V plus Avalanche

On PCB PMP6680A jumper out L1 with wide strap



30V@12A

Both 30V and 8V versions tested: see Test Reports

C22: about 30mOhms max at 10kHz ESR

max overall output Z at 17kHz: 40mOhms

L2 Z at 17kHz 1.6ohms

min filter attenuation at 17kHz is 40

if C22 is pure 470uF cap will have attenuation of 40 at 12kHz

Positive 12A Converter 30V version shown

For 8Volts out: made R19 = 16.2k and R21 = 49.9 ohms

For outputs 12V or less a smaller choke can be used

Vref for FB is 600mV
Voltage divider: R19 with R20 & R21 shown for 30V output
TP9, TP12 and TP11 are for Bode plot of control loop
connect TP11 (white) last

Texas Instruments

Title 48Vin Positive 12A & Negative 100mA		
Size B	Number PMP8849	Rev A
Date 5/31/2013	Drawn by Josh Mandelcorn	
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