Test Data
For PMP10502
6/26/2014

Power specification board was tested to

Vin 1= 6V to 8V in

Vout = 12V @ 34A for 30 seconds

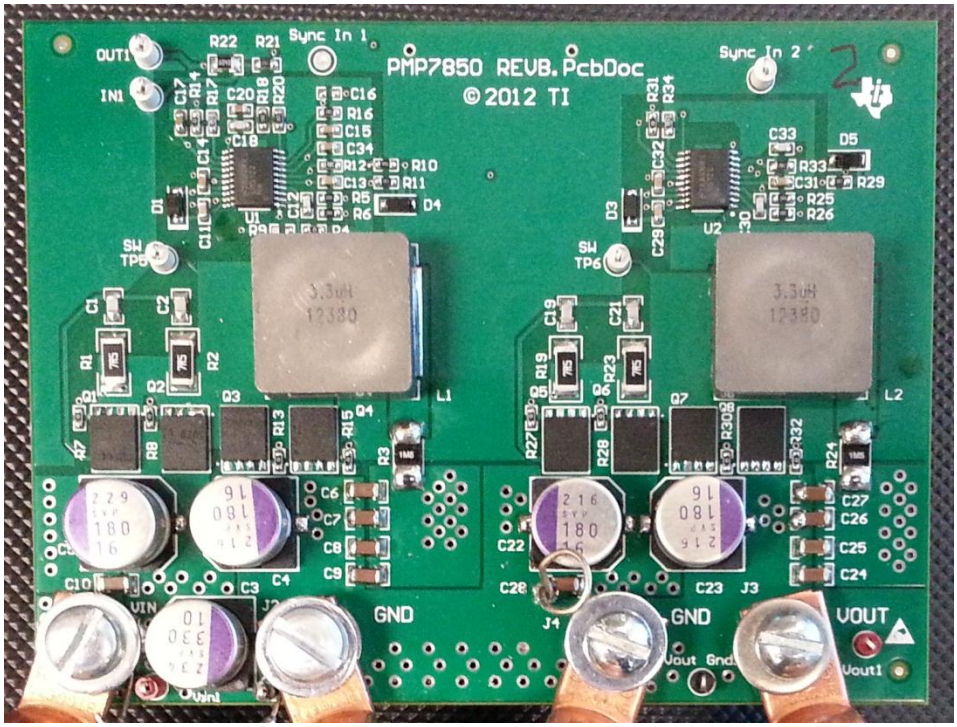
Rev 2 – Additional functional 30second test carried out at 425W.

Vout 12V out 17A continuous.

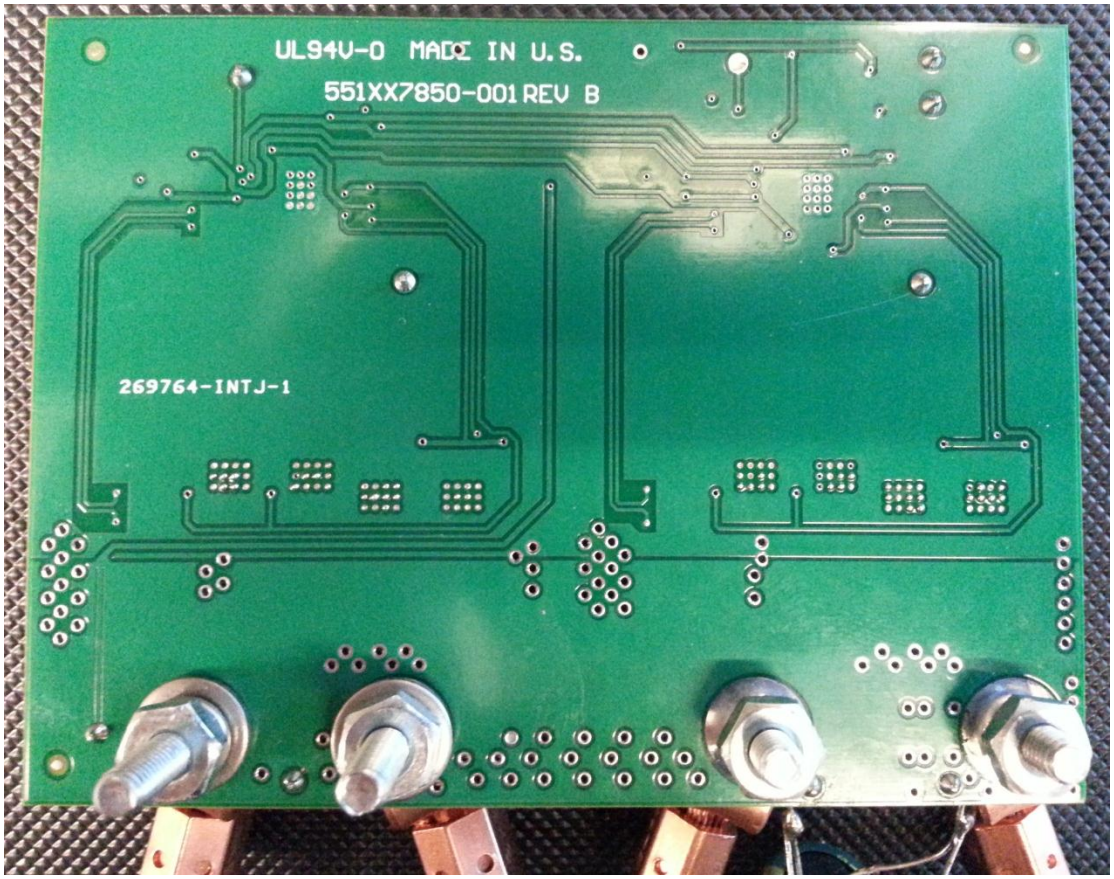
Fsw = 500kHz

Note, that test set up has 5 ft of cable at input and an additional bulk capacitor was used at the input. For the final application, it is recommended that short input leads be used from power source to the input so as not minimize the possibility of input instability due to under damping. The PMP10502 was built on the PMP7850 REVB PCB.

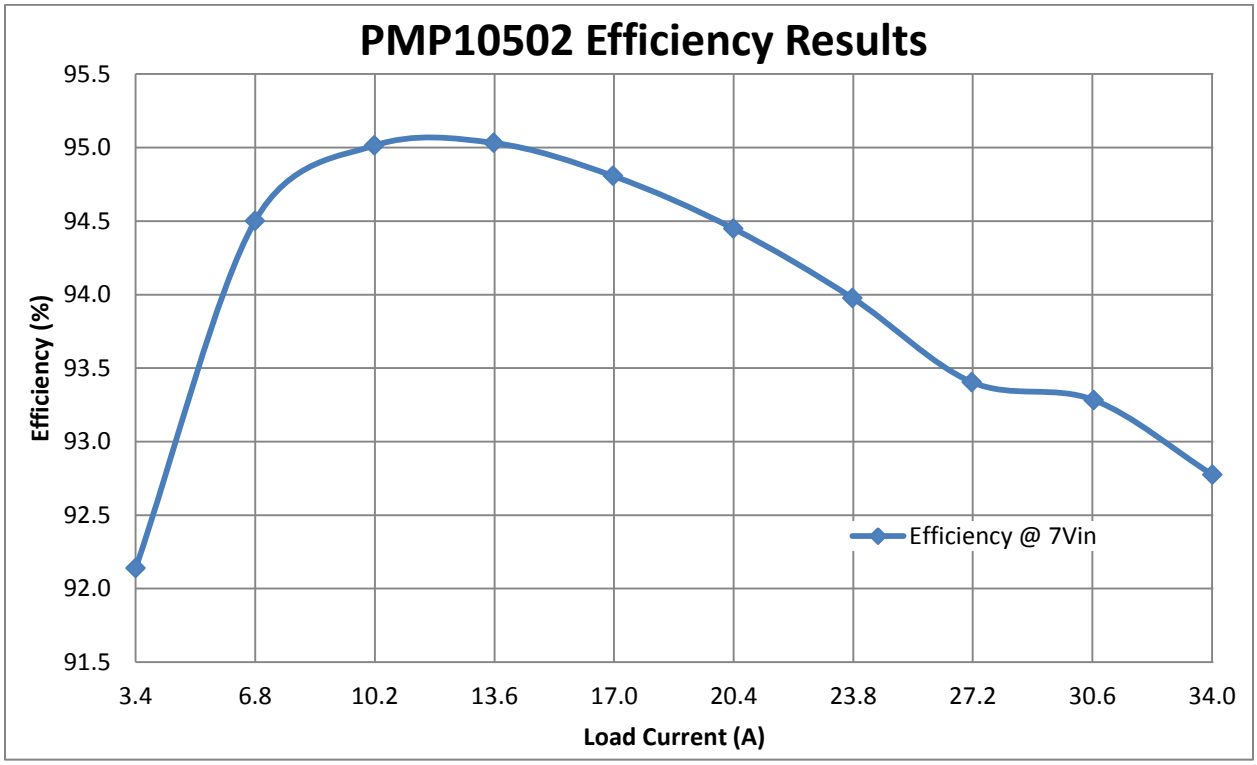
Top Side



Bottom Side



System Efficiency



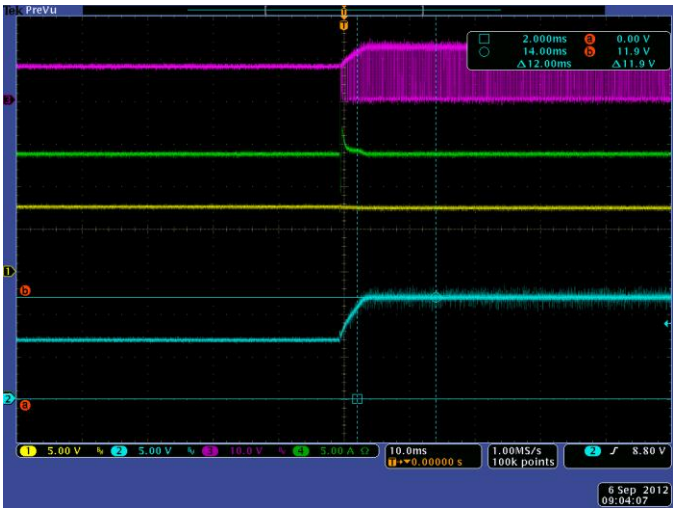
Efficiency Data

Vin (V)	Iin (A)	Vout (V)	Iout (A)	Pin (W)	Pout (W)	Efficiency (%)
7	6.211	11.9225	3.36	43.477	40.0596	92.1
7	12.168	11.9212	6.752	85.176	80.49194	94.5
7	18.187	11.9197	10.148	127.309	120.9611	95.0
7	24.262	11.9182	13.542	169.834	161.3963	95.0
7	30.407	11.9166	16.934	212.849	201.7957	94.8
7	36.688	11.9147	20.358	256.816	242.5595	94.4
7	42.999	11.913	23.744	300.993	282.8623	94.0
7	49.435	11.9112	27.136	346.045	323.2223	93.4
7	55.83	11.9133	30.601	390.81	364.5589	93.3
7	62.32	11.9123	33.975	436.24	404.7204	92.8

Waveforms

Start up Full Load, With UVLO Used as enable.

6V in. Ch 1 Vin, Ch 2 Vout, Ch 3 Vswitch, Ch 4 Iin

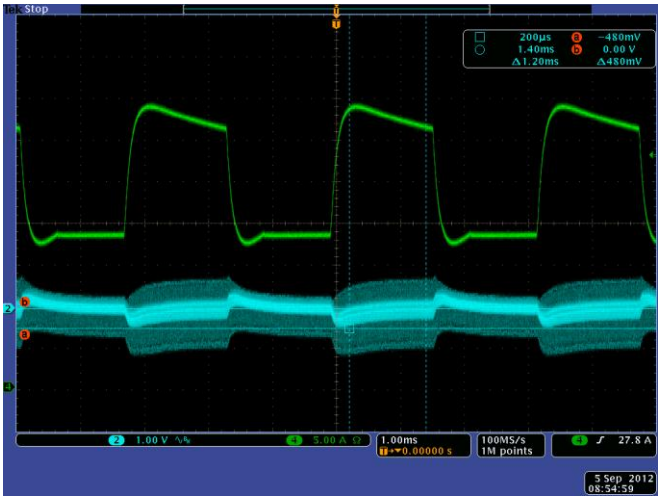


Start Up Full Load, 8V in With UVLO Used as enable**. Ch 1 Vin, Ch 2 Vout, Ch 3 Vswitch, Ch 4 Iin**

Start Up No Load 6.5V in

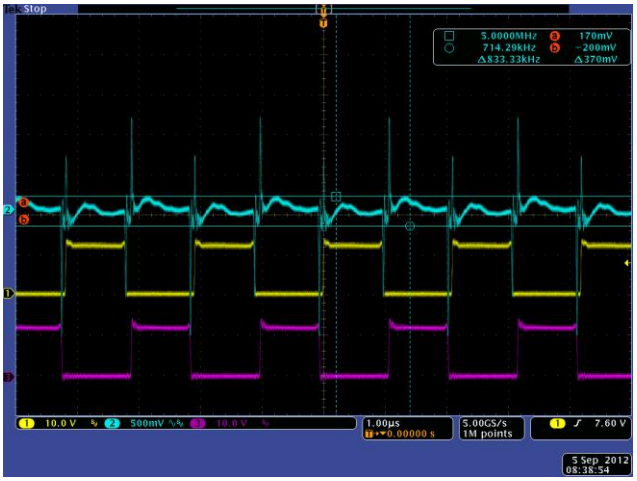
Ch2 Vout; Ch3 Vsw; Ch4- Iin

Transient Response

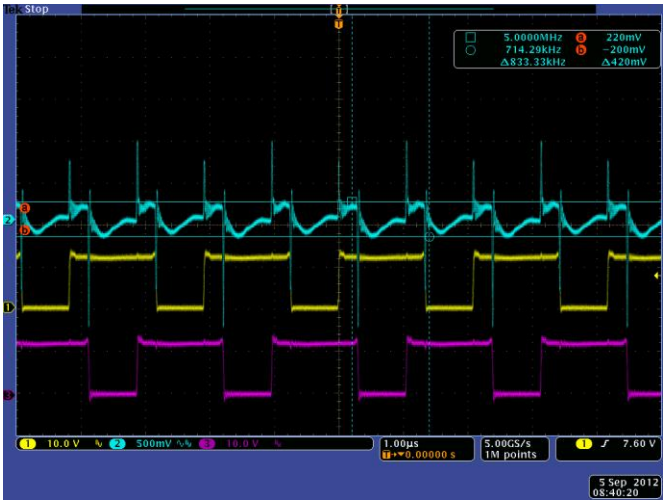


7V in Transient Response 17A to 34A

Vout ripple and Vswitch

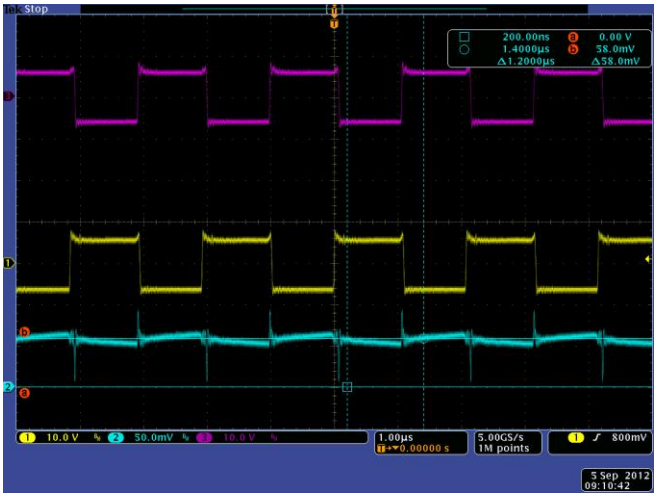


Vout Ripple and Vswitch 6V in 12V out @ 34A

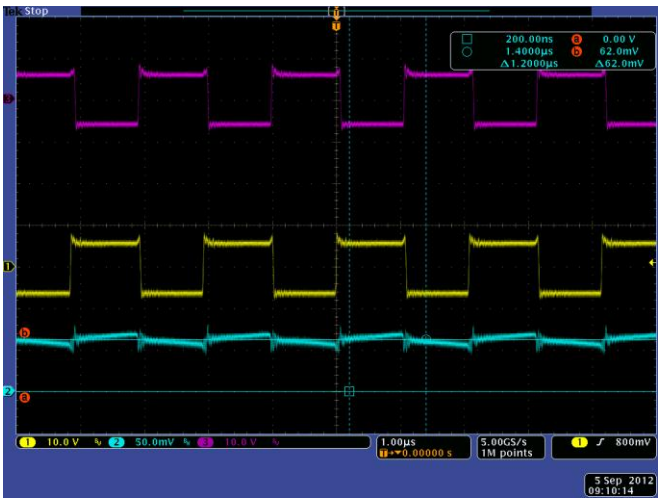


Vout Ripple and Vswitch 8V in 12V out @ 34A

Current Sharing Waveforms



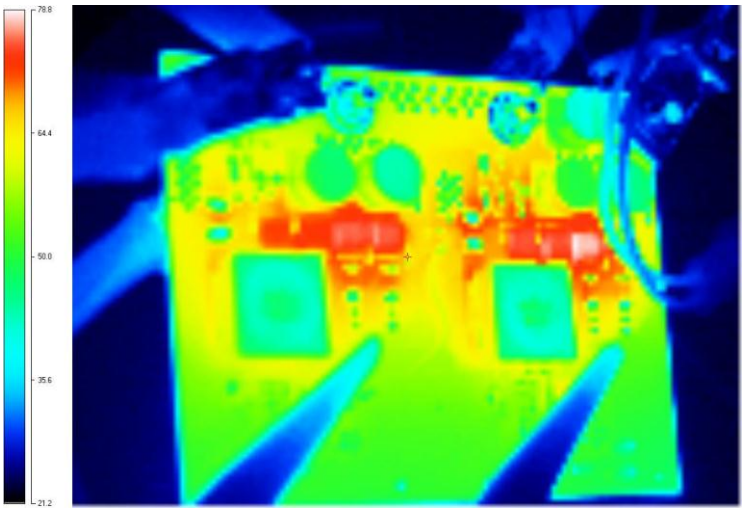
Ch2 2, Master Inductor Current – 34A out (Measured across 1.5mR current sense Resistor)



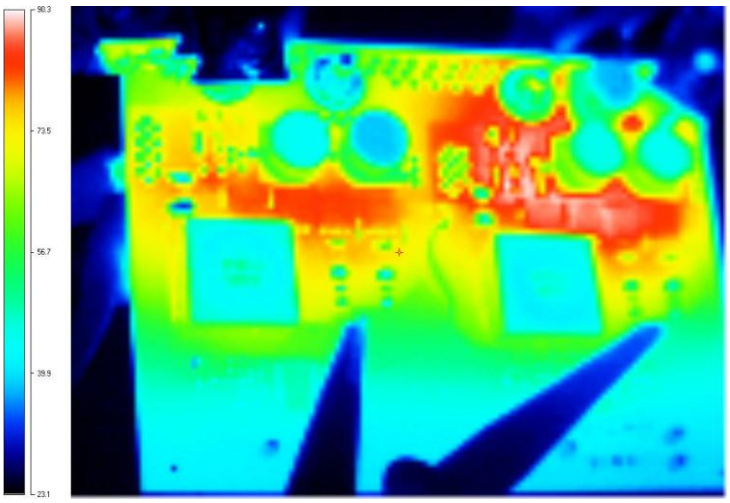
Ch 2, Slave Inductor Current – 34A out (Measured across 1.5mR current sense Resistor)

Thermal Data

Steady State temp, 12V out @ 17A



Temp after 30 seconds, 12V out @ 34A



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