Test Data
For PMP10502
6/26/2014

TEXAS INSTRUMENTS
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 REV B PCB.

Top Side
Bottom Side
System Efficiency

PMP10502 Efficiency Results

Efficiency Data

<table>
<thead>
<tr>
<th>Vin (V)</th>
<th>Iin (A)</th>
<th>Vout (V)</th>
<th>Iout (A)</th>
<th>Pin (W)</th>
<th>Pout (W)</th>
<th>Efficiency (%)</th>
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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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