**PMP10898 Test Results**

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*Note: Tested with load step from 100mA to full 7A as application of satellite communications often has transmitter that goes from near no load to full load.*

### Efficiency & Losses:
Model t2 of PMP10828 build modified to be PMP10898 tested January 13-15, 2015  
Switching frequency was 151+ kHz at 50 and 55 Vin  
Tested without fan  
Vin at (TP2-TP3) & Vout (TP7-TP10) senses  
FLIR EX320 thermal camera with emissivity set at 0.94  
Meters Fluke 83V and 87III cal. Due March 2015;

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<th>Vout Volts DVM</th>
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Same UVLO as PMP10828 with turn on at 28V and turn off at 25 Vin.
Thermal image:

PMP10898 55Vin 6.0Vout at 7A ~4.5W on PCB, no fan, steady state >20 minutes
21 deg. C ambient 151+kHz switching: All temperatures in degrees Celsius
Hottest is high side FET at 70+, low side FET 63, main inductor top 50, TPS40170 controller 47, snubber 10 ohm size 2010 at 43

Q
Snubber R (10 ohms) was size 2010. Based upon minimal heating, it can be size 1210 or even size 1206.
Main waveform:

Main waveform at full 7A load: 55Vin 6.0 Vout 7A 151+kHz operation:
Boot resistor 5.1 ohms, 100pF & 10 snubber added Drain to Source low side FET

Rising waveform in detail, verified with product group as being acceptable:

14-Jan-15
21:11:23
Output Ripple:

Output ripple at C28, same conditions as above full 7A load
15-Jan-15
14:08:35

pkp(1) 44.4mV
max(1) 18.1mV
rms(1) 9.87mV
mean(1) 0.27mV

16 μs EWL Freq(1) 151.141 kHz

2 mV AC
2 mV AC
1.5 V DC
50 mV AC

1 CS/s

STOPPED
Start up:

Start up at no load: 55Vin applied: Rise time to 6Vout is 11 msec with no overshoot
Scope calculated rise is 10% to 90%
15-Jan-15
18:18:00

Bode plot:

Bode Plot of main control loop: crossover target 15 kHz, 12.5 kHz actual
Step load & load dump responses:

Step load response: 52.5V in, 6.0V out 100mA to 7A in ~13 usec:
- ~140mV undershoot with recovery to within 50mV in 60 usec.

Load dump response: 52.5V in 6V out 7A to 100mA in ~20 usec:
- ~100mV overshoot with recovery to within 50mV in 180 usec.
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