1 Startup

Output voltage startup waveform, 0A load
1V/div, 1mS/div

![Graph 1](image1)

Output voltage startup waveform, 3A load
1V/div, 1mS/div

![Graph 2](image2)
2 Efficiency

The converter efficiency is shown below with a 48V input.

![Efficiency Graph]

3 Output Ripple Voltage

Output ripple voltage across C18
10mV/div, 2uS/div
Measured 12.3mVpp
4 Input Ripple Voltage
Input ripple voltage across C12
50mV/div, 2uS/div
Measured 137mVpp

5 Load Transients
Output voltage response (ac coupled)
1.5A to 3A load step, 250mA/usec slew rate
100mV/div, 1A/div, 200uS/div
Measured 293mVpp

6 Switch Node Waveforms
Drain voltage of Q1, 57V input and 3A load.
20V/ div, 2.00uS/ div, 750MHz bandwidth
Measured 132Vpeak

Drain voltage of Q1, 57V input and 3A load.
5V/ div, 2.00uS/ div, 750MHz bandwidth
Measured 24.2Vpeak
7 Control Loop Gain / Stability
The converter’s loop response with a 48V input and 5V/3A output is shown below.

Band Width = 6.422KHz Phase Margin = 55.81 degrees Gain Margin=10dB

8 Thermal Image
The thermal image below shows operation at 48V input and 5V/3A output with no airflow
9 Photo

Top:

Bottom:
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