1 Startup

The startup waveform for the 44 volts is shown in the figure below. The input is 14 volts. The lower trace is the load current.

2 EFFICIENCY

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<th>Vin</th>
<th>Iin</th>
<th>Pin</th>
<th>Vout</th>
<th>Iout</th>
<th>Pout</th>
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<td>44.1</td>
<td>7</td>
<td>308.7</td>
<td>95.45455</td>
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</table>
3 Load step response

The bottom trace is a output current step, and top is the 44 volt output response.

4 Input voltage turn on and over voltage

Under voltage lock out is 8 volts and over voltage lock out is 17.8 volts. Note that these values can be adjusted using R3,R12,R7,R11.
4 Drain wave forms

The four FET drains at 4 amp load
5 Output ripple
The top trace is the output/input with the boost disabled, which shows no power supply rejection except at higher frequencies due to the attenuation of the output filter. The bottom trace is the output/input with the boost operating.
This is the same as above except that I increased the mid-band loop gain by 6 db, which resulted in a 6 db improvement in power supply rejection.
7 Photo
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