Testing performed with 24V input, 4A load and 20MHz bandwidth unless noted.

**Efficiency**

![Efficiency Graph]

<table>
<thead>
<tr>
<th>Iout</th>
<th>Vout</th>
<th>Iin</th>
<th>Vin</th>
<th>Eff</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>11.97</td>
<td>0.023</td>
<td>24.00</td>
<td>0.0%</td>
</tr>
<tr>
<td>0.20</td>
<td>11.97</td>
<td>0.142</td>
<td>24.00</td>
<td>70.2%</td>
</tr>
<tr>
<td>0.40</td>
<td>11.97</td>
<td>0.251</td>
<td>24.00</td>
<td>79.5%</td>
</tr>
<tr>
<td>0.60</td>
<td>11.97</td>
<td>0.367</td>
<td>24.00</td>
<td>81.5%</td>
</tr>
<tr>
<td>0.80</td>
<td>11.97</td>
<td>0.462</td>
<td>24.00</td>
<td>86.4%</td>
</tr>
<tr>
<td>1.00</td>
<td>11.97</td>
<td>0.585</td>
<td>24.00</td>
<td>85.3%</td>
</tr>
<tr>
<td>1.50</td>
<td>11.97</td>
<td>0.853</td>
<td>24.00</td>
<td>87.7%</td>
</tr>
<tr>
<td>2.00</td>
<td>11.97</td>
<td>1.120</td>
<td>24.00</td>
<td>89.1%</td>
</tr>
<tr>
<td>2.50</td>
<td>11.97</td>
<td>1.388</td>
<td>24.00</td>
<td>89.8%</td>
</tr>
<tr>
<td>3.00</td>
<td>11.97</td>
<td>1.663</td>
<td>24.00</td>
<td>90.0%</td>
</tr>
<tr>
<td>3.50</td>
<td>11.97</td>
<td>1.938</td>
<td>24.00</td>
<td>90.1%</td>
</tr>
<tr>
<td>4.00</td>
<td>11.97</td>
<td>2.218</td>
<td>24.00</td>
<td>89.9%</td>
</tr>
</tbody>
</table>

**Ripple and Noise**

Output ripple, 20mV/div, 2usec/div
Measured 24.7mVpp across J2:
Input ripple, 20mV/div, 2usec/div
Measured 42.7mVpp across C3:

**Dynamic Loading**

Output load step response, 400mA to 4A load step
500mV/div, 2A/div, 500usec/div, slew rate = 400mA/usec
Measured 983mVpp across J2:

Output load step response, 2A to 4A load step
200mV/div, 2A/div, 500usec/div, slew rate = 400mA/usec
Measured 487mVpp across J2:

**Turn On Response**

4A load, 2msec/div
CH1: Vout, 5V/div
Waveforms

Vds, Q1, 20V/div, 2usec/div, 30Vdc input, 750MHz bandwidth
Measured 80.7Vpeak:
Vanode-GND, D1, 20V/div, 2usec/div, 30Vdc input, 750MHz bandwidth
Measured 50.7Vpeak:

**Loop Stability**

4A Load:
Bandwidth = 4.8 kHz  Phase Margin = 56 degrees  Gain Margin = 14 dB

400mA Load:

Bandwidth = 2.2 kHz  Phase Margin = 49 degrees  Gain Margin = 25 dB

**Thermal**
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