1 Startup

Input voltage  = 85VAC  
Load current  = full load (3.84A)
Input voltage  = 85VAC
Load current   = no load

Input voltage  = 265VAC
Load current   = full load (3.84A)
2 Shutdown

Input voltage  = 85VAC
Load current  = full load (3.84A)

Input voltage  = 265VAC
Load current  = full load (3.84A)
3 Efficiency

![Efficiency Graph]

4 Load regulation

![Load Regulation Graph]
Output power = 19.5V@3.84A
Input voltage = 85VAC
Phase margin = 66°
Bandwidth = 1.2kHz

Output power = 19.5V@3.84A
Input voltage = 230VAC
Phase margin = 66°
Bandwidth = 1.6kHz

Output power = 19.5V@3.84A
Input voltage = 265VAC
Phase margin = 73°
Bandwidth = 1.4kHz
5 Switch Node

Input voltage = 265VAC
Load current = full load (3.84A)

Input voltage = 85VAC
Load current = full load (3.84A)
6 Switch Node secondary side

Input voltage = 265VAC
Load current = full load (3.84A)
7 Output ripple voltage

Input voltage = 230VAC
Load current = full load (3.84A)
8 Load Transients

Input voltage = 230VAC
Load current = 1A to 4A
9 Thermal Analysis

The images below show the infrared images taken from the FlexCam after 15min at full load (19.5V@3.84A).

<table>
<thead>
<tr>
<th>Name</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformer T2</td>
<td>77.1°C</td>
</tr>
<tr>
<td>Diode D6</td>
<td>53.6°C</td>
</tr>
<tr>
<td>Mosfet Q1</td>
<td>67.6°C</td>
</tr>
<tr>
<td>Mosfet Q5</td>
<td>65.9°C</td>
</tr>
</tbody>
</table>

Input voltage = 325VDC
Output power = 75W
Ambient temperature = 25°C
No heatsink, no airflow
10 EMI Measurement

The graph below shows the conducted emission EMI noise and the EN55022 Class-B Quasi-Peak limits (measurement from the worst case line). The load was connected to a LISN and an isolation transformer; the load was a power resistor. The receiver was set to Quasi-peak detector, 10 KHz bandwidth. The negative terminal of the converter has been connected to the ground of the LISN.

Input voltage  = 265VAC  
Load current   = 3.84A
Input voltage  = 85VAC
Load current  = 3.84A
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