1 Efficiency and Load regulation

**PMP30198 Efficiency**

- \( \text{Vin}=230\text{VAC} \)

**PMP30198 Load Regulation**

- 18Vout2 (TP5)
- 18Vout (TP1)
2 Startup

Input voltage = 108VAC
Load current = full load

Input voltage = 230VAC
Load current = full load
Input voltage = 430VDC
Load current = full load
3 Shutdown

Input voltage  = 230VAC
Load current    = full load
4 Switch Node

Input voltage  = 430VDC
Load current  = full load
5 Secondary Switch Node

5.1 Diode D1
Input voltage = 430VDC
Load current = full load

5.2 Diode D6
Input voltage = 430VDC
Load current = full load
6  **Output Ripple 18Vout (TP1)**

Input voltage  = 230VAC  

Load current  = full load
7 Load step 18Vout (TP1)

Input voltage  = 230VAC
Load current  = 0A – 0.25A
8 Thermal Analysis

The images below show the infrared images taken from the FlexCam after 15min at full load output power.

<table>
<thead>
<tr>
<th>Name</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformer T1</td>
<td>43.1°C</td>
</tr>
<tr>
<td>Controller U1</td>
<td>49.1°C</td>
</tr>
<tr>
<td>Diode D6</td>
<td>43.0°C</td>
</tr>
<tr>
<td>Diode D1</td>
<td>44.4°C</td>
</tr>
<tr>
<td>Snubber</td>
<td>36.9°C</td>
</tr>
</tbody>
</table>

Input voltage = 230VAC
Load current = full load
Ambient temperature = 25°C
No heatsink, no airflow
9 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 measurement is not certified. The board 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 18V output (TP3) has been connected to the ground of the LISN.

Input voltage = 110VAC
Load current = full load

Date: 1.JAN.1997 0:36:16
Input voltage = 230VAC
Load current = full load

Date: 1.JAN.1997 0:14:29
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