



- Specs:
- 1) Output Power = $(20V \cdot 2.25A) + (15V \cdot 333A) + (5V \cdot 3A) = 65W$
 - 2) Input Power = $65W / 0.8 = 81.25W$
 - 3) $239mA = (81.25W / 340V) < \text{Input Current} < (81.25W / 127V) = 639mA$
 - 4) Peak Current = $(5.5 \cdot 65W) / 127V = 2.815A$

- Transformer:
- 1) $L_{pri} = (127V \cdot 5) / (2.815A \cdot 50KHz) = 451uH$
 - 2) $L_{gap} = (.4 \cdot \pi \cdot 0.00451 \cdot 10^8) / (.904 \cdot 2000^2) = .044cm = 17mils$
 - 3) Core: Magnetics, Inc. 0F43007EC (gapped with tape)
 - 4) $N_{pri} = 1000 \cdot (.451mH / 100mH)^{.5} \cdot 5 \cdot 67T$
 $N_{bias} = 67 \cdot 12 / 127 \approx 7T$
 $N_{5V} = 67 \cdot 5 / 127 \approx 3T$
 $N_{15V} = 67 \cdot 15 / 127 \approx 8T$
 $N_{20V} = 67 \cdot 20 / 127 \approx 11T$
 - 5) Hand wound with 22 gage magnet wire
 - 6) Measured $L_{pri} = 467uH$
 - 7) Measured $L_{leak} = 26uH$

Title		
Prototype VII - Power		
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