

9 Waveforms

9.1 Drain Voltage, Normal Operation

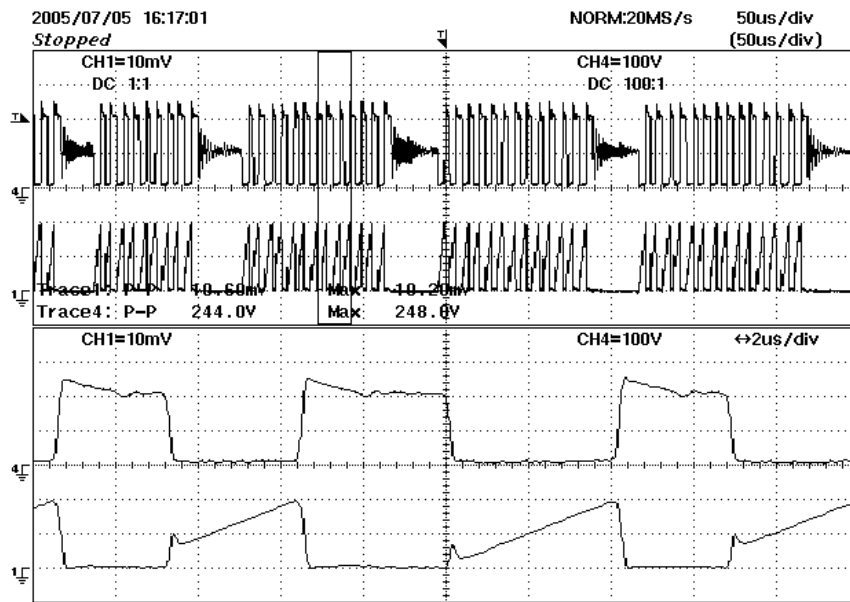


Figure 14 – Drain voltage at 85 VAC input, full load.

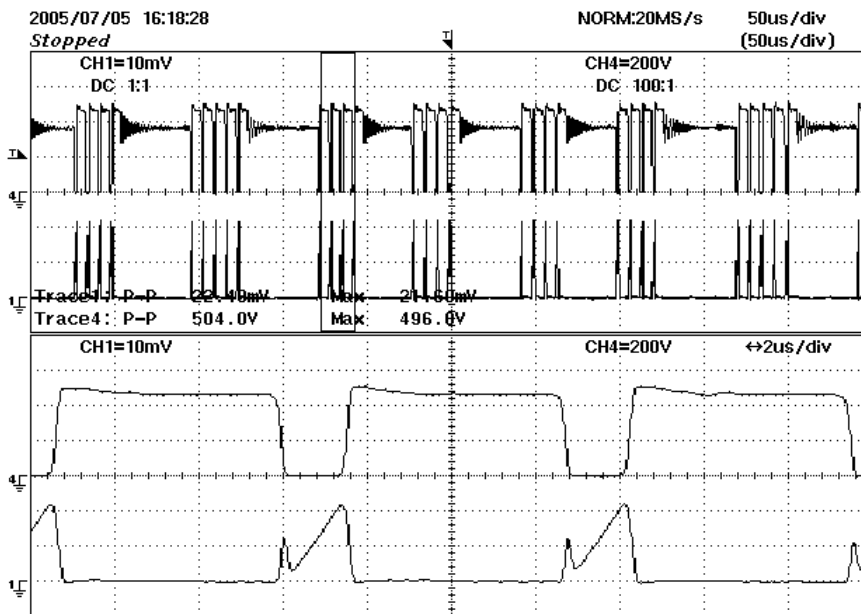


Figure 15 – Drain voltage at 265 VAC, full load.



9.2 Drain Voltage During Startup

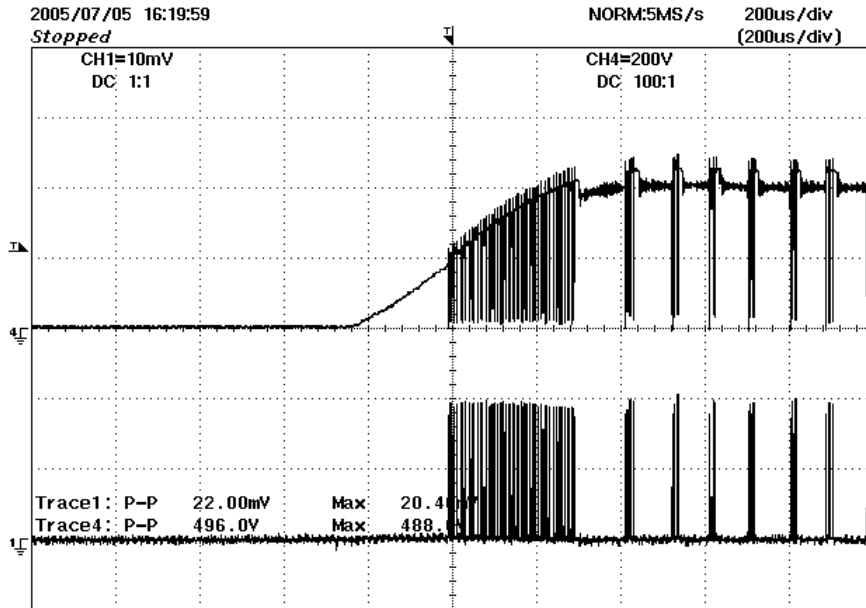


Figure 16 – Drain voltage during startup, 264 VAC, full load.

9.3 Output Voltage Start-up Profile

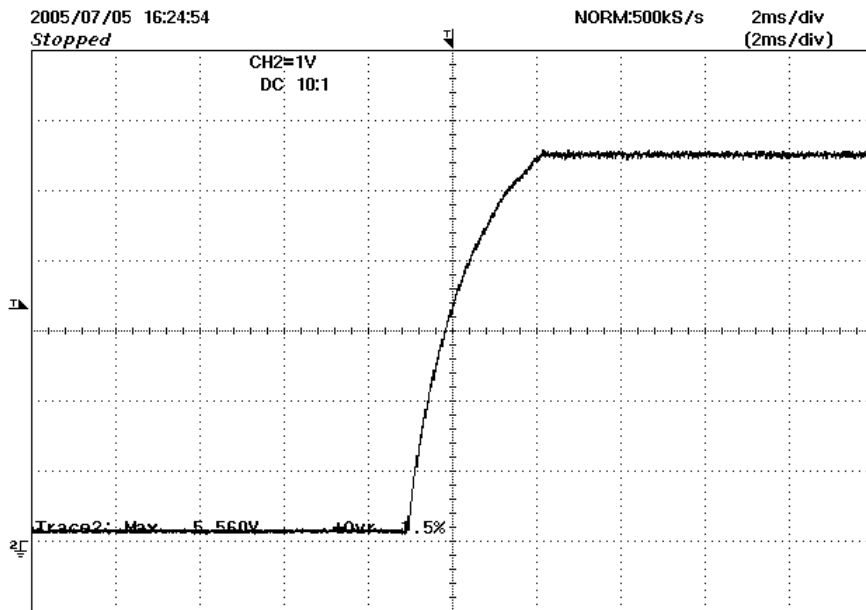


Figure 17 – Output voltage overshoot at 85 VAC, full load.



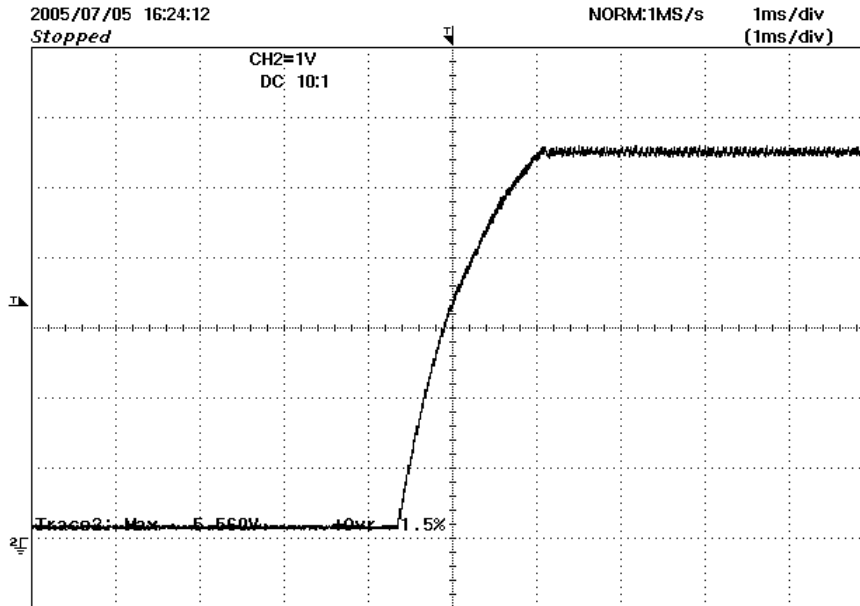


Figure 18 – Output voltage overshoot at 265 VAC, full load.

10 Output Ripple Measurements

10.1.1 Ripple Measurement Technique

For DC output ripple measurements, a modified oscilloscope test probe must be utilized in order to reduce spurious signals due to pickup. Details of the probe modification are provided in Figure 19 and Figure 20.

The 5125BA probe adapter is affixed with two capacitors tied in parallel across the probe tip. The capacitors include one (1) 0.1 $\mu\text{F}/50\text{ V}$ ceramic type and one (1) 1.0 $\mu\text{F}/50\text{ V}$ aluminum electrolytic. ***The aluminum electrolytic type capacitor is polarized, so proper polarity across DC outputs must be maintained (see below).***



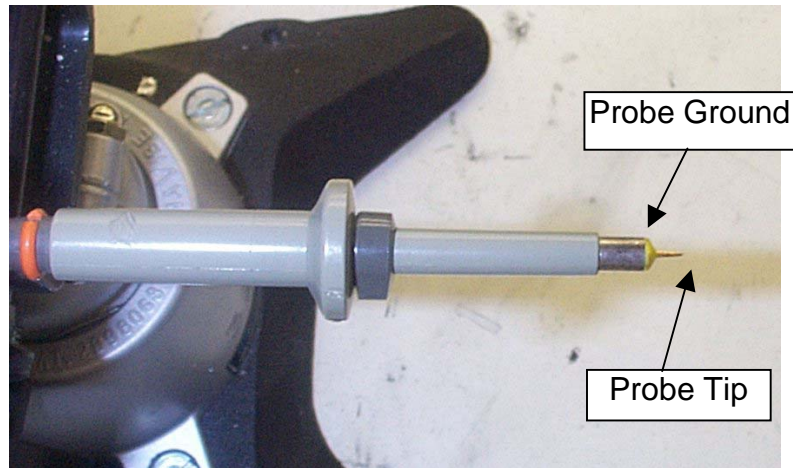


Figure 19 – Oscilloscope Probe Prepared for Ripple Measurement. (End Cap and Ground Lead Removed)



Figure 20 – Oscilloscope Probe with Probe Master 5125BA BNC Adapter. (Modified with wires for probe ground for ripple measurement, and two parallel decoupling capacitors added)

10.1.2 Measurement Results

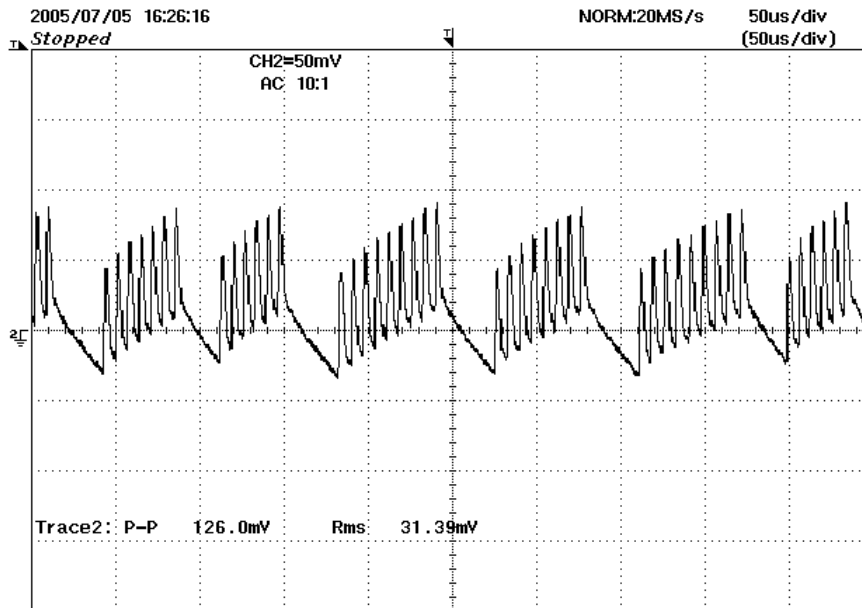


Figure 21 – Output Ripple at 115 VAC, full load.

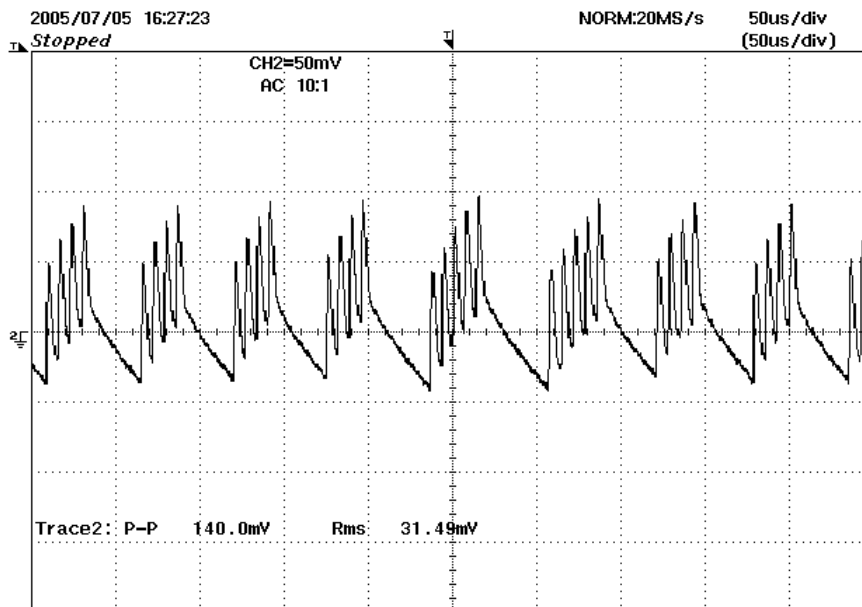
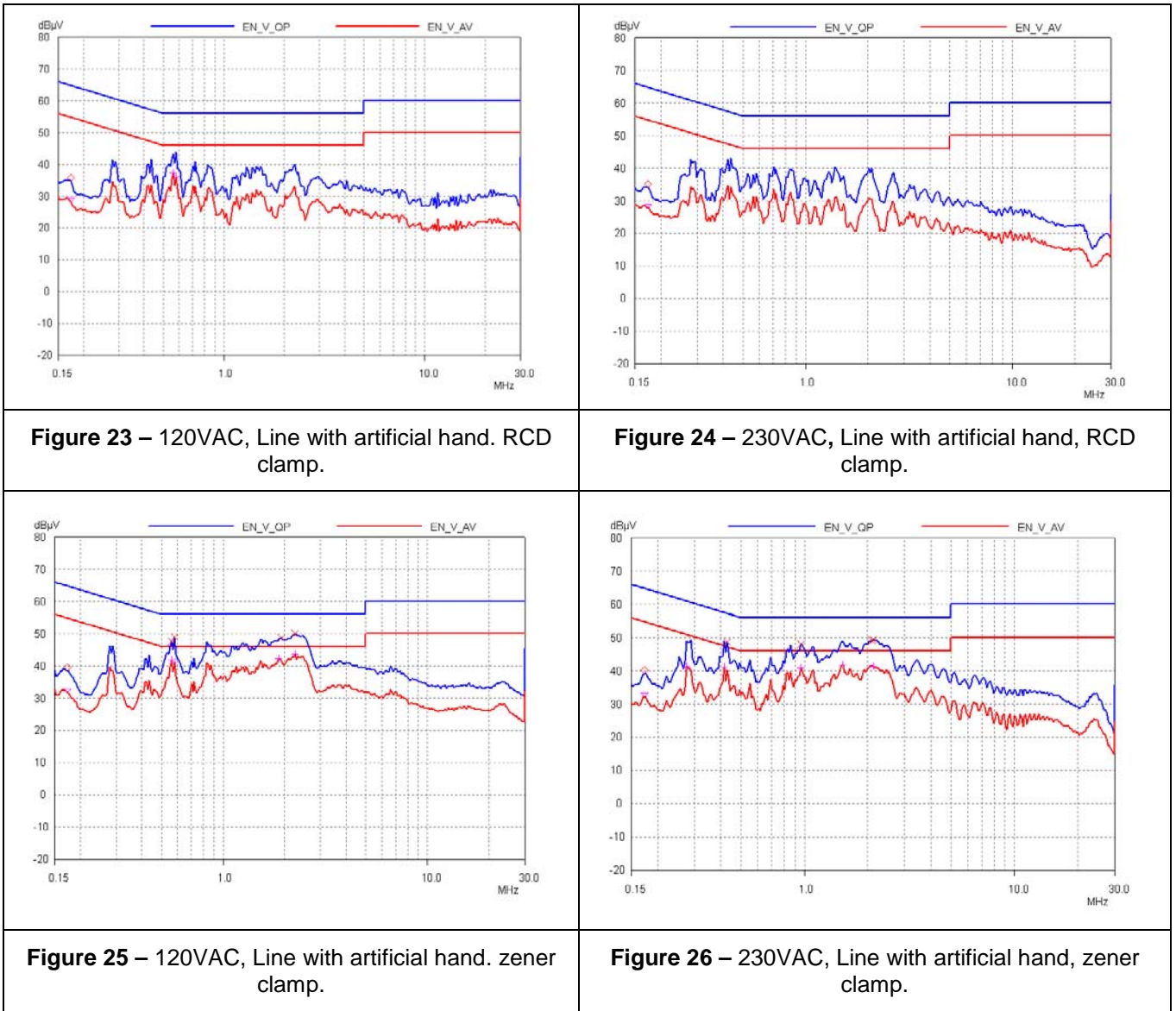


Figure 22 – Output Ripple at 230 VAC input, full load.



11 Conducted EMI

Conducted EMI was tested at full load. The worst case results shown below.



12 Transformer construction with bias winding

12.1 Electrical Diagram

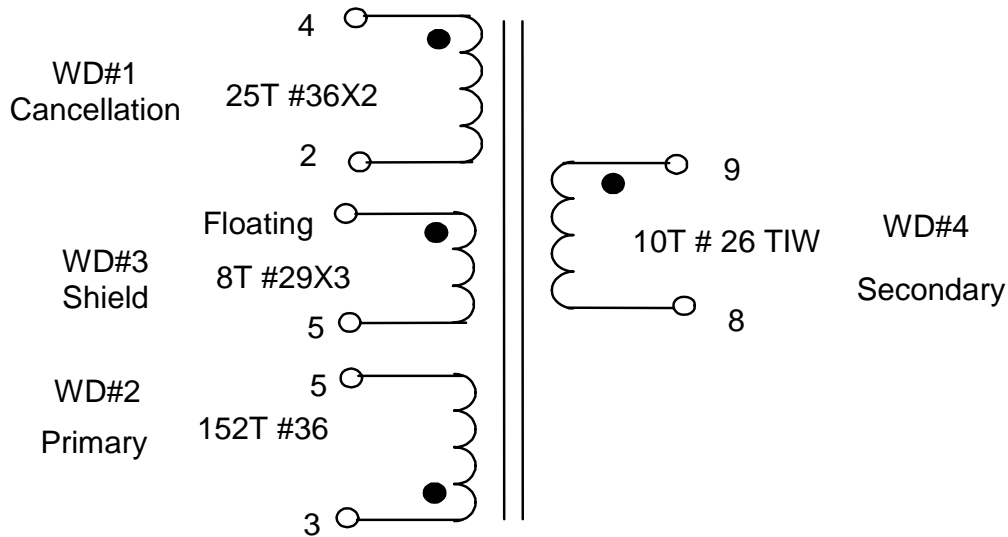


Figure 27 – Transformer Electrical Diagram

12.2 Transformer Build Diagram

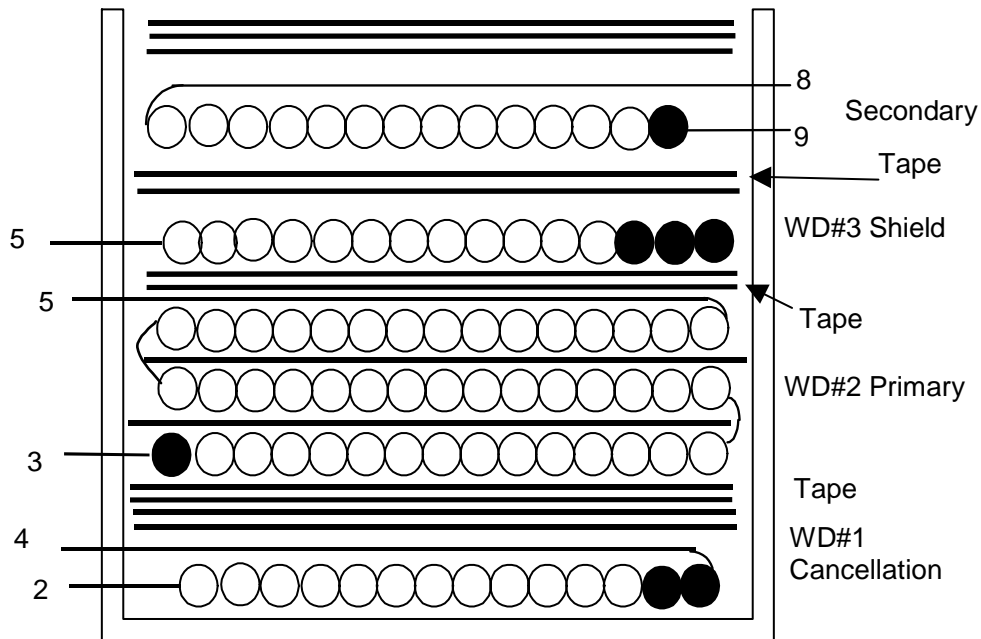


Figure 28 – Transformer Build Diagram

13 Revision History

Date	Author	Revision	Description & changes	Reviewed
August 24, 2005	YG	1.0	Initial release	AM / VC



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