

9 Waveforms

9.1 Drain Voltage and Current, Normal Operation

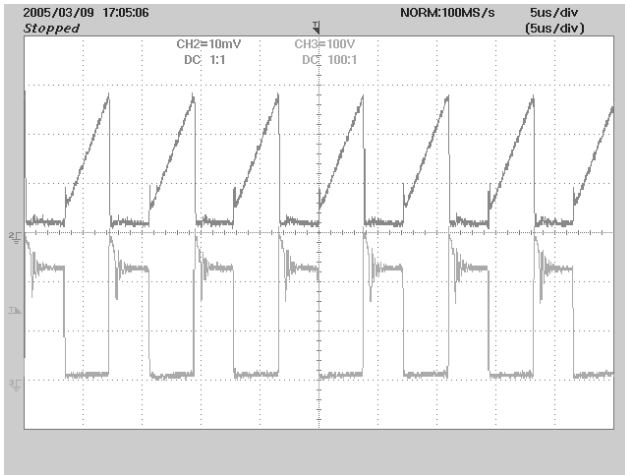


Figure 9 – 90 VAC, Full Load.
Upper: I_{DRAIN} , 0.2 A / div
Lower: V_{DRAIN} , 100 V, 5 μ s / div

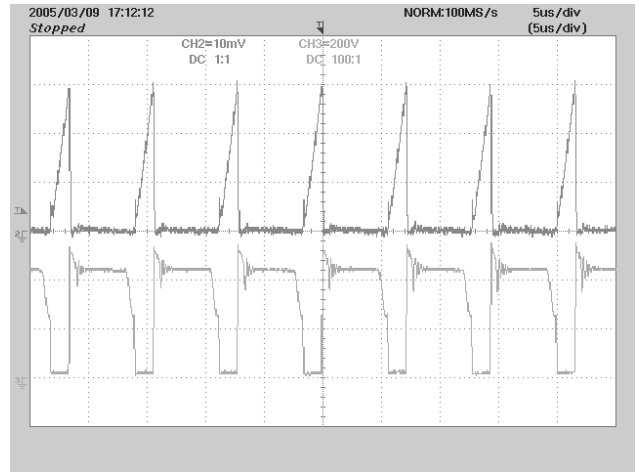


Figure 10 – 265 VAC, Full Load
Upper: I_{DRAIN} , 0.2 A / div
Lower: V_{DRAIN} , 200 V / div

9.2 Output Voltage Start-up Profile

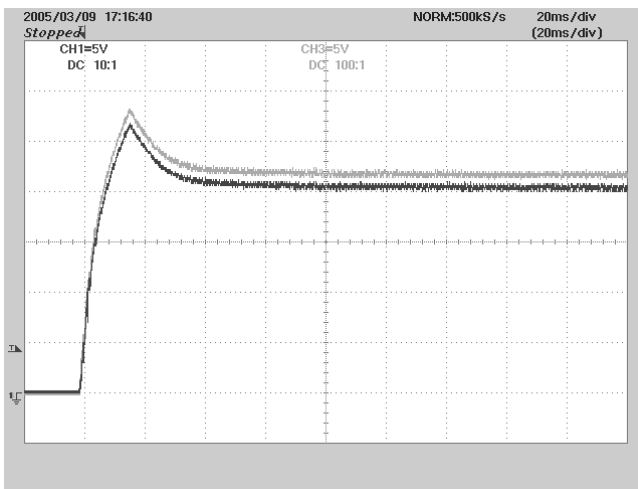


Figure 11 – Start-up Profile, 90VAC
5 V, 20 ms / div.

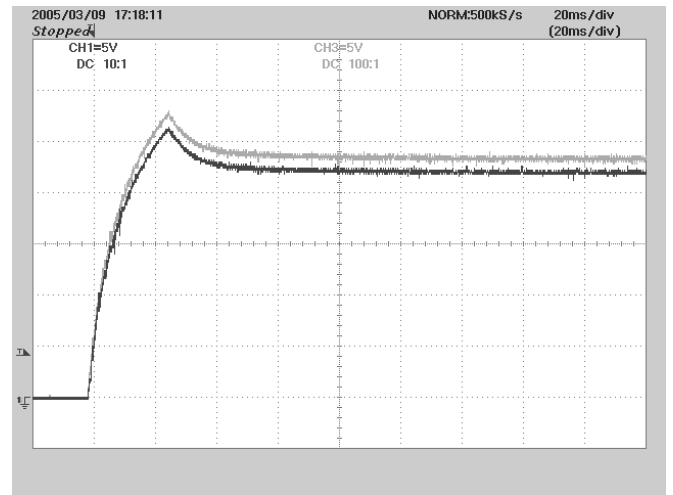


Figure 12 – Start-up Profile, 265 VAC
5 V, 20 ms / div.



9.3 Output Ripple Measurements

9.3.1 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 13 and Figure 14.

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).**

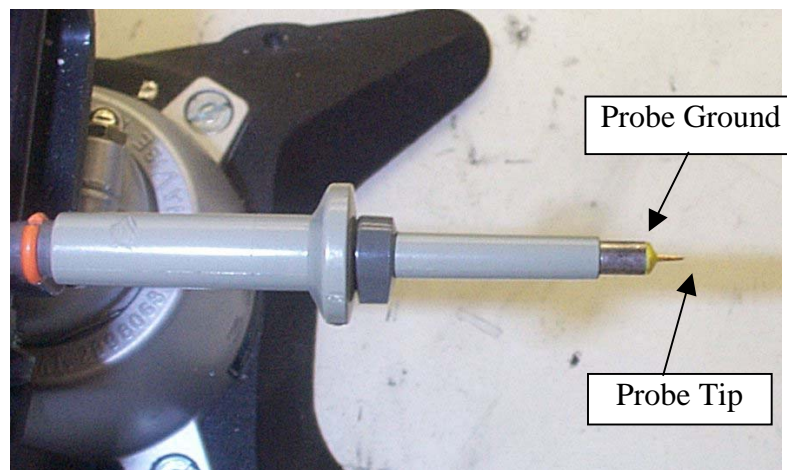


Figure 13 – Oscilloscope Probe Prepared for Ripple Measurement. (End Cap and Ground Lead Removed)



Figure 14 – Oscilloscope Probe with Probe Master 5125BA BNC Adapter. (Modified with wires for probe ground for ripple measurement, and two parallel decoupling capacitors added)

9.3.2 Measurement Results

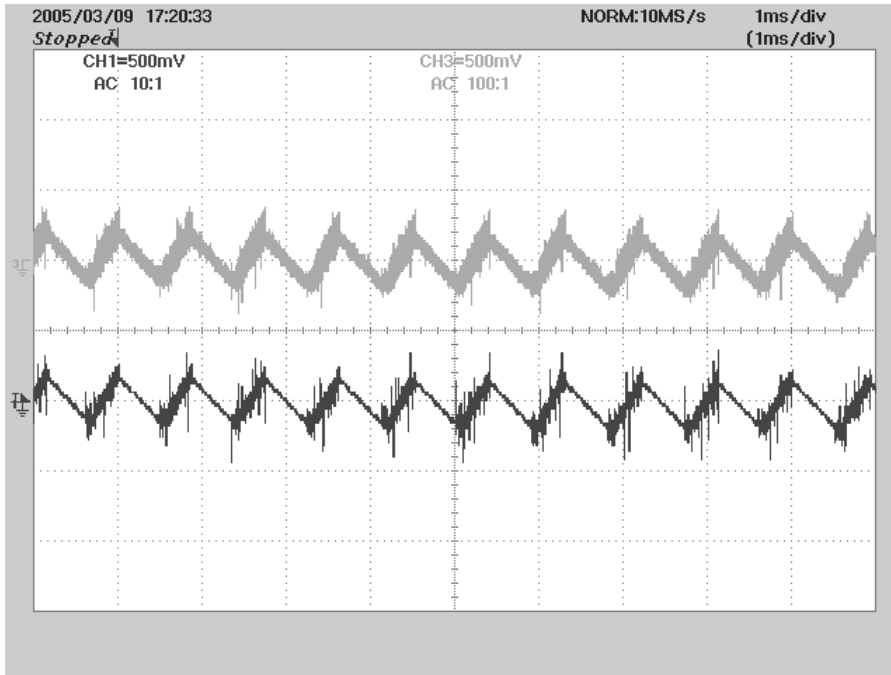


Figure 15 – Ripple, 120 VAC, Full Load.
1 ms, 500 mV / div



10 Conducted EMI

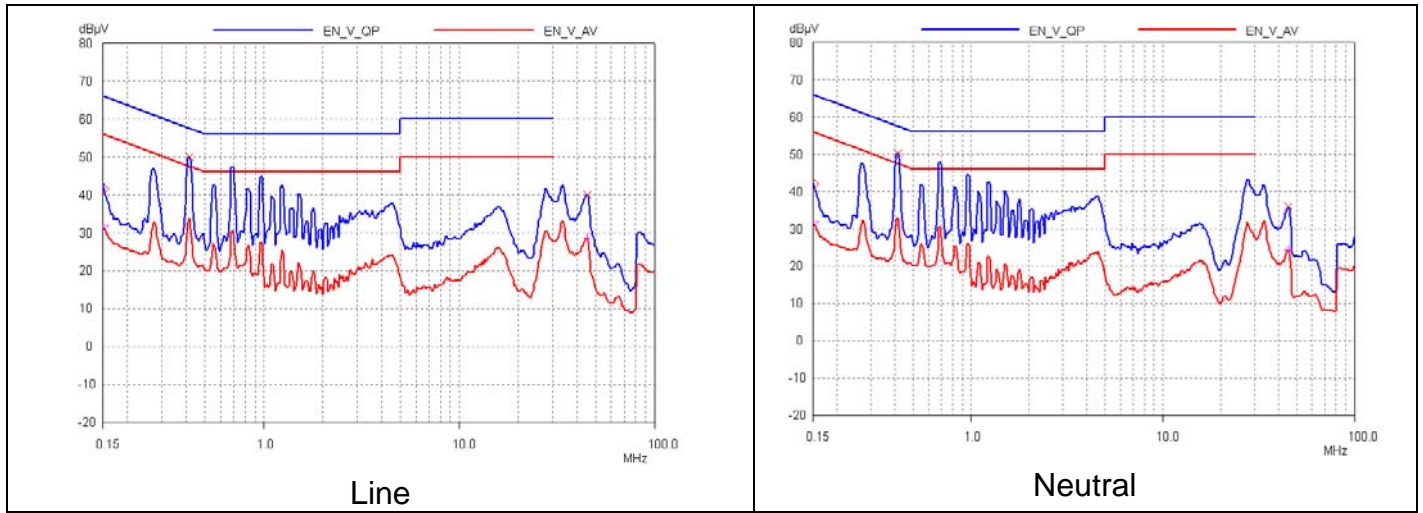


Figure 16 – Conducted EMI, Maximum Steady State Load, 120 VAC, 60 Hz, and EN55022 B Limits

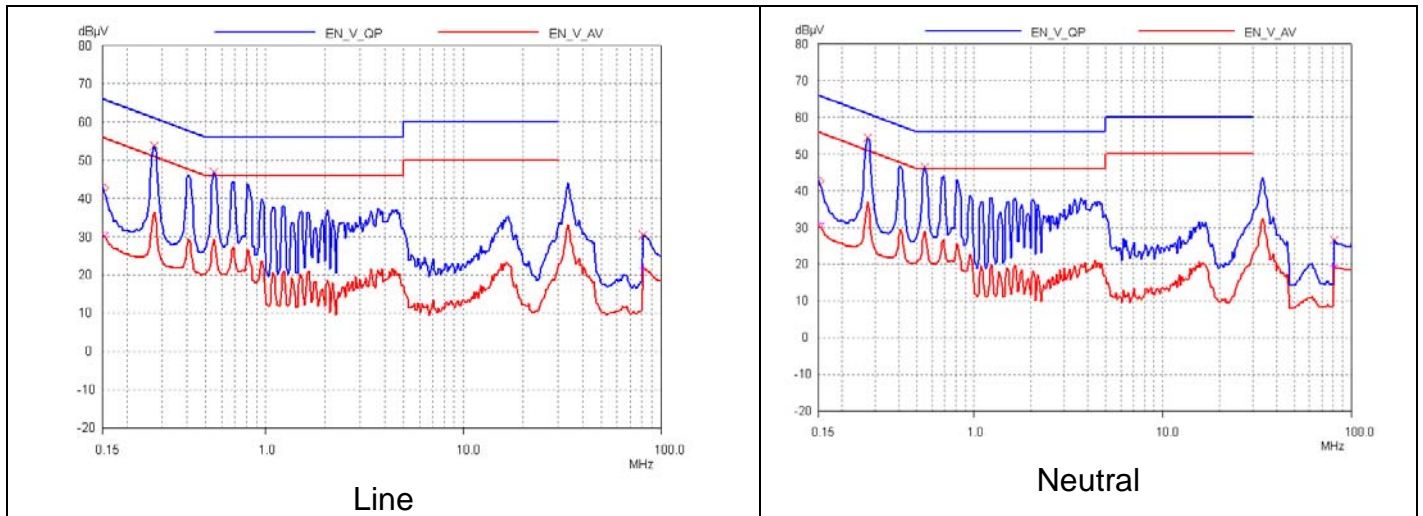


Figure 17 – Conducted EMI, Maximum Steady State Load, 240 VAC, 60 Hz, and EN55022 B Limits



11 Revision History

Date	Author	Revision	Description & changes	Reviewed
10-26-05	RSP	1.0	Initial Release	KM/JC/VC



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