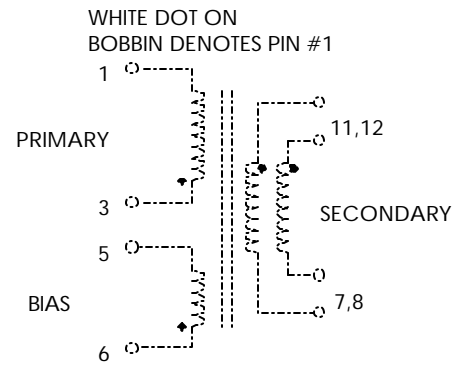


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C
 SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
 TOP204Y/TOP226Y & TOP104Y. REFER TO APPLICATION CIRCUITS OF FIGURE 3A, 3B or 3C.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (3-1) VOLTAGE = 0.250Vrms FREQUENCY = 100KHZ	540	600	660	μHY
TURN RATIO'S: SEC (11,12-7,8) : PRIMARY (3-1) BIAS (6-5) : PRIMARY (3-1)	-----	1:7.333	-----	± 3%
PRILEAKAGE IND. (SEC SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100KHZ	-----	15.0	20.0	μHY
HIPOT: PRIMARY TO SECONDARY BIAS TO SECONDARY	3000 3000	----- -----	----- -----	Vrms Vrms
FIGURE 3A CIRCUIT PARAMETERS: (1) AC LINE VOLTAGE 47/400Hz OUTPUT VOLTAGE OUTPUT CURRENT CONTINUOUS OUTPUT CURRENT PEAK LINE REGULATION (85 TO 265Vac) LOAD REGULATION 10-100% RIPPLE	85 ----- 0.0 ----- ----- ----- ----- -----	----- 15.0 ----- ----- 0.20 0.20 50.0	265 ----- 3.33 3.5 ----- ----- -----	Vac Vdc Amps Amps ±% ±% ±mV

(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3A.
 FOR 13.8V, 85-132VAC VERSION REFER TO CIRCUIT & TABLE OF FIGURE 3B, TOP104

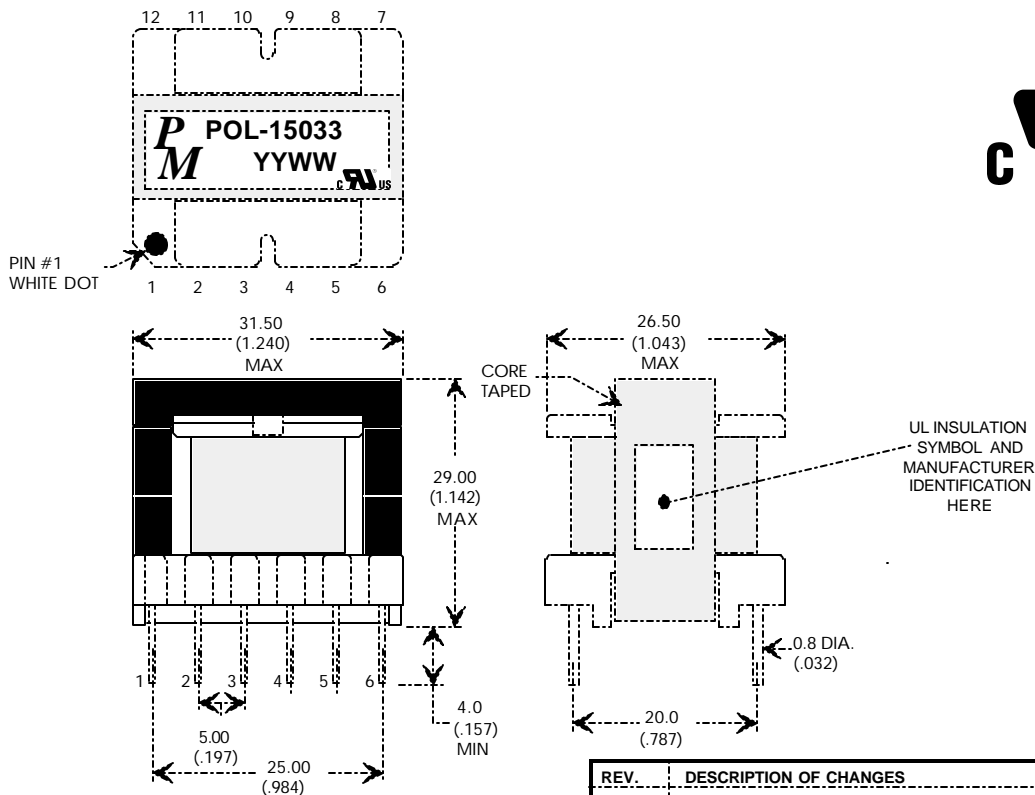
FIGURE 1: SCHEMATIC DIAGRAM



SECONDARY PINS #12 & #11, #8 & #7 MUST BE RESPECTIVELY CONNECTED TOGETHER FOR PROPER OPERATION.
 I.E. CONNECTED AS ONE PARALLEL WINDING.

NOTE1:
REINFORCED INSULATION SYSTEM, UL1950, IEC950, CSA-950:
 A) ALL MATERIALS MEET "UL", "CSA" & "IEC" REQUIREMENTS
 B) TRIPLE BASIC INSULATED SECONDARY.
 C) DESIGNED TO MEET >6.2mm CREEPAGE REQUIREMENTS.
 D) VARNISH FINISHED ASSEMBLY.
 E) UL1950 & CSA-950 CERTIFIED: FILE #E162344.
 F) UL CLASS (B) 130 INSULATION SYSTEM PM130-R1, PM130-H1, PM130-H1A (UL FILE #E177139) OR ANY UL AUTHORIZED CLASS (B) INSULATION SYSTEM.

FIGURE 2: PHYSICAL DIMENSIONS mm (INCHES)



REV.	DESCRIPTION OF CHANGES	BY
04/30/96	UPDATED RELEASE	TO
10/10/98	UPDATED TO ADD UL 1950 & CE-950 APPROVAL & MARKING	TO
04/26/99	UPDATE TO UL CLASS (B) 130 INSULATION SYSTEM	MD
08/28/03	ADD 12 V CIRCUIT PAGE #4	PP



UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN MM
 DIMENSIONAL TOLERANCES ARE:
 DECIMALS ANGLES
 .X ± .25 ±0° 30'
 .XX ± .15
 DO NOT SCALE DRAWING

TRANSFORMER CONTROL DRAWING	
PREMIER P/N: POL-15033	REVISION: 08/28/03
DRAWN BY: PETER PHAM	REF: TOP204, TOP226
SCALE: NONE	SHEET: 1 OF 8

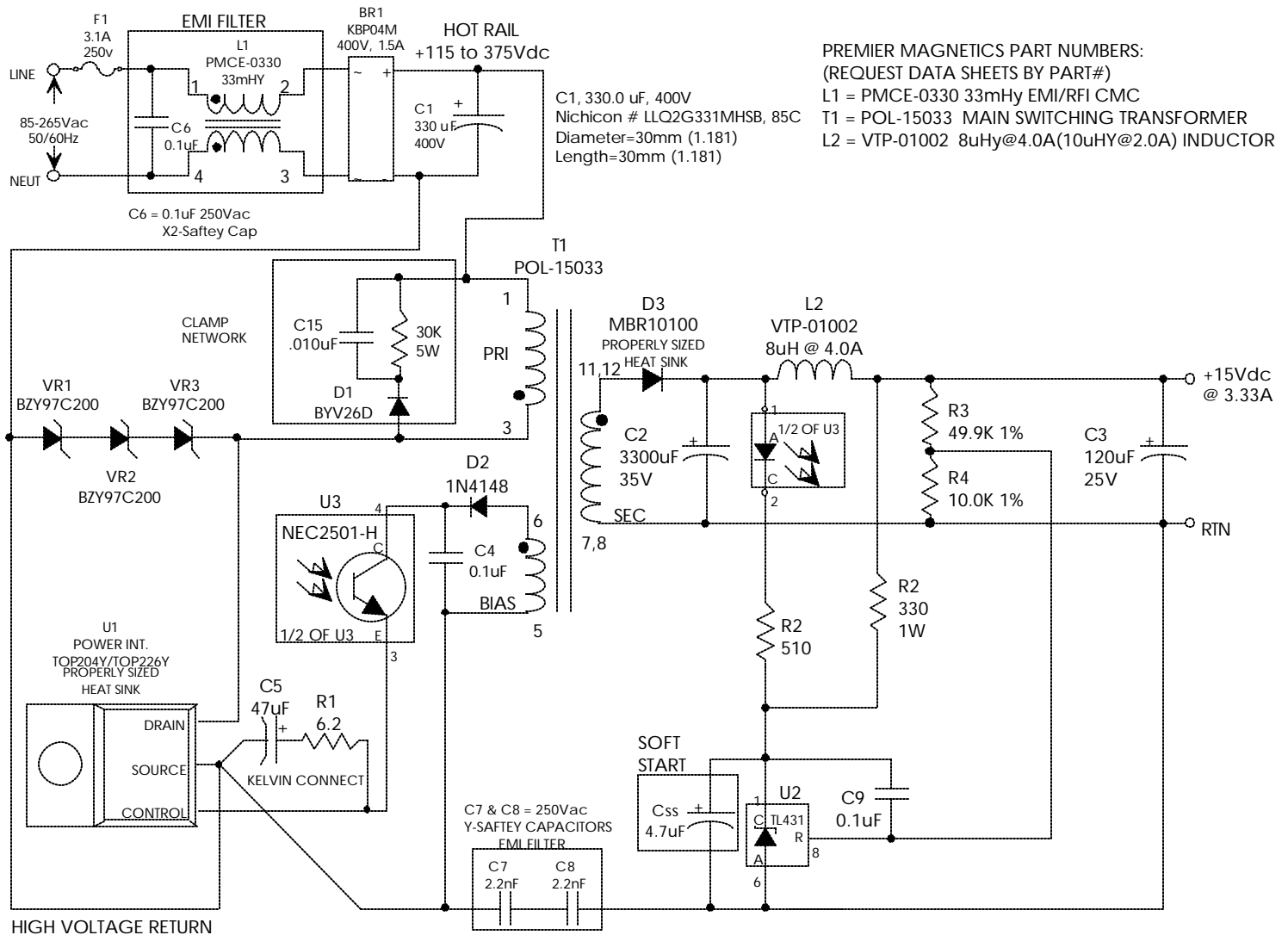
APPLICATION NOTES FOR 15.0V @ 3.33A

Premier Magnetics' POL-15033 Switch Mode Transformer was designed for use with Power Integrations, Inc. TOP204Y or TOP226Y three terminal off-line PWM switching regulator in the Flyback Buck-Boost circuit configuration. This conversion topology can provide isolated multiple outputs with efficiencies up to 90%. Premier's POL-15033 transformer has been optimized to provide maximum power throughput.

The PWR-TOPXXX series from Power Integrations, Inc. are self contained 100KHz three terminal voltage controlled PWM switching regulators. This series contains all necessary functions for an off-line switched mode control DC power source. These switching regulators provide a very simple solution to off-line designs. The inductors and transformer used with the PWR-TOPXXX are critical to the performance of the circuit. They define the overall efficiency, output power and overall physical size.

Below is a universal input high precision 50 watt application circuit utilizing Power Integrations TOP204Y or TOP226Y switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only. Properly sized heat sinks for the TOP2XX & D3 as well as proper thermal management of the clamp network are critical requirements for efficient and reliable operation. The TVS clamp VR1 may need to be modified based on actual end circuit temperature rise considerations.

FIGURE 3A: TYPICAL APPLICATION CIRCUIT



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM
DIMENSIONAL TOLERANCES ARE:
DECIMALS ANGLES
.X ± .25 ± 0° 30'
.XX ± .15
DO NOT SCALE DRAWING

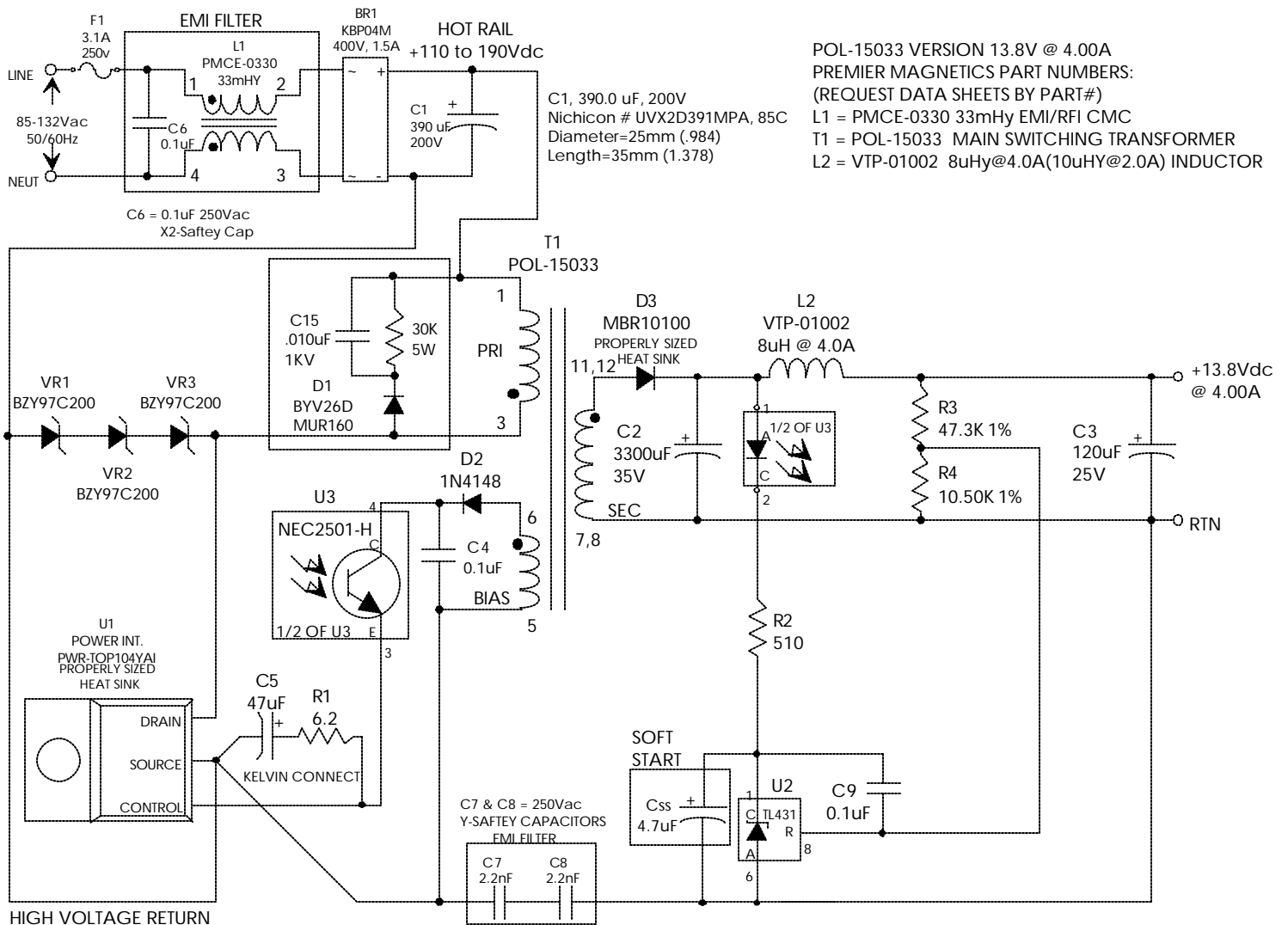
TRANSFORMER CONTROL DRAWING	
PREMIER P/N: POL-15033	REVISION: 08/28/03
DRAWN BY: PETER PHAM	REF: TOP204, TOP226
SCALE: NONE	SHEET: 2 OF 8

APPLICATION NOTES FOR 13.8V @ 4.00A

Below is an 85 to 132Vac input high precision 56 watt application circuit utilizing Power Integrations TOP104 switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only. Properly sized heat sinks for the TOP1X4 & D3 as well as proper thermal management of the clamp network are critical requirements for efficient and reliable operation. The TVS clamp VR1 may need to be modified based on actual end circuit temperature rise considerations.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
FIGURE 3B CIRCUIT PARAMETERS:				
AC LINE VOLTAGE 47/400Hz	85	-----	135	Vac
OUTPUT VOLTAGE		13.8		Vdc
OUTPUT CURRENT CONTINUOUS	0.0	-----	4.00	Amps
OUTPUT CURRENT PEAK	-----	-----	4.50	Amps
LINE REGULATION (85 TO 132Vac)	-----	0.20	-----	±%
LOAD REGULATION 10-100%	-----	0.20	-----	±%
RIPPLE	-----	50.0	-----	±mV

FIGURE 3B: TYPICAL APPLICATION CIRCUIT



UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN MM
 DIMENSIONAL TOLERANCES ARE:
 DECIMALS ANGLES
 .X ± .25 ±0° 30'
 .XX ± .15
 DO NOT SCALE DRAWING

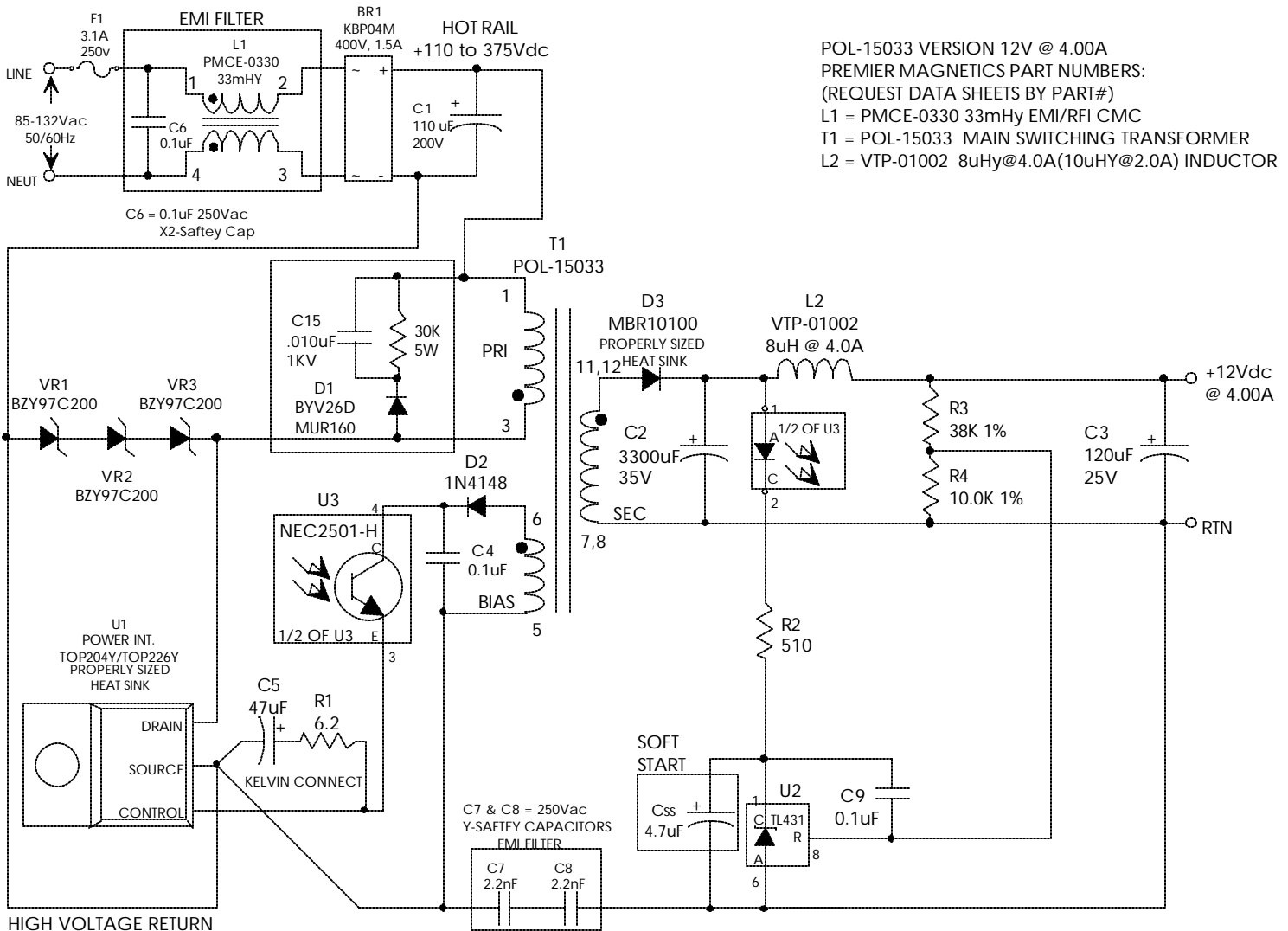
TRANSFORMER CONTROL DRAWING	
PREMIER P/N: POL-15033	REVISION: 08/28/03
DRAWN BY: PETER PHAM	REF: TOP204, TOP226
SCALE: NONE	SHEET: 3 OF 8

APPLICATION NOTES FOR 13.8V @ 4.00A

Below is an 85 to 265Vac input high precision 51 watt application circuit utilizing Power Integrations TOP204 switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only. Properly sized heat sinks for the TOP1X4 & D3 as well as proper thermal management of the clamp network are critical requirements for efficient and reliable operation. The TVS clamp VR1 may need to be modified based on actual end circuit temperature rise considerations.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
FIGURE 3C CIRCUIT PARAMETERS:				
AC LINE VOLTAGE 47/400 Hz	85	-----	265	Vac
OUTPUT VOLTAGE		12		Vdc
OUTPUT CURRENT CONTINUOUS	0.0	-----	3.5	Amps
OUTPUT CURRENT PEAK	-----	-----	4.20	Amps
LINE REGULATION (85 TO 132Vac)	-----	0.20	-----	±%
LOAD REGULATION 10-100%	-----	0.20	-----	±%
RIPPLE	-----	50.0	-----	±mV

FIGURE 3C: TYPICAL APPLICATION CIRCUIT



UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN MM
 DIMENSIONAL TOLERANCES ARE:
 DECIMALS ANGLES
 .X ± .25 ±0° 30'
 .XX ± .15
 DO NOT SCALE DRAWING

TRANSFORMER CONTROL DRAWING	
PREMIER P/N: POL-15033	REVISION: 08/28/03
DRAWN BY: PETER PHAM	REF: TOP204, TOP226
SCALE: NONE	SHEET: 4 OF 8