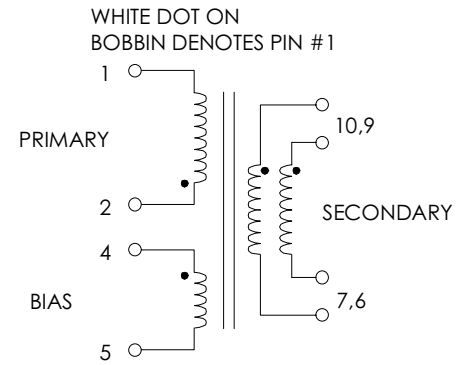


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C
 SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
 PWR-TOP204YAI. REFER TO APPLICATION CIRCUIT OF FIGURE 3.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (3-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	729	810	891	μHY
TURN RATIO'S: SEC (1,1,12-7,8) : PRIMARY (3-1) BIAS (6-5) : PRIMARY (3-1)	-----	1:8.250	-----	± 3%
PRI LEAKAGE IND. (SEC SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	-----	15.0	20.0	μHY
HIPOT: PRIMARY TO SECONDARY BIAS TO SECONDARY	3000 3000	----- -----	----- -----	Vrms Vrms
APP CIRCUIT PARAMETERS: (1) AC LINE VOLTAGE 47/400 Hz 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

FIGURE 1: SCHEMATIC DIAGRAM



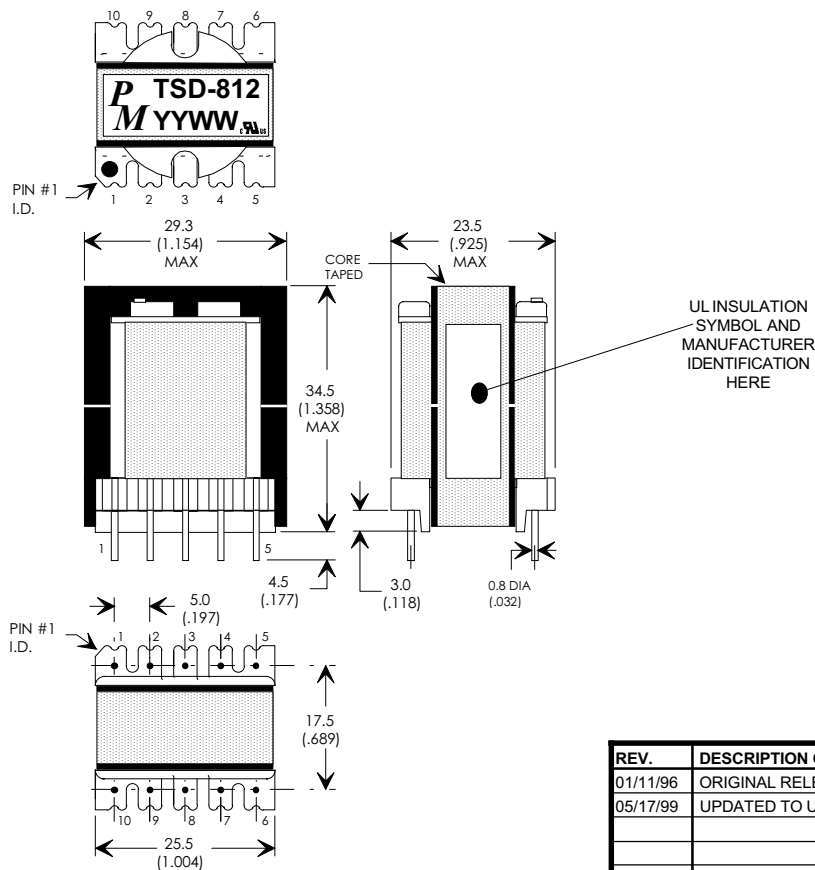
WHITE DOT ON BOBBIN DENOTES PIN #1

SECONDARY PINS #10 & 9, #7 & 6 MUST BE RESPECTIVELY CONNECTED TOGETHER FOR PROPER OPERATION. I.E. CONNECTED AS ONE PARALLEL WINDING.

NOTE1:
REINFORCED INSULATION SYSTEM, UL 1950, 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) UL 1950 & CSA-950 CERTIFIED: FILE #E162344.
 F) UL CLASS (B) 130 INSULATION SYSTEM PM130-H1A (UL FILE #E177139) OR ANY UL AUTHORIZED CLASS (B) INSULATION SYSTEM.

(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.

FIGURE 2: PHYSICAL DIMENSIONS mm (INCHES)



EER28L, 10-PIN VERTICAL BOBBIN

REV.	DESCRIPTION OF CHANGES	BY
01/11/96	ORIGINAL RELEASE (POL-15033 USING EER28L CORE/BOBBIN SET)	TO
05/17/99	UPDATED TO UL CLASS (B) 130 INSULATION SYSTEM	MD



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: TSD-812	REVISION: 05/17/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP204YAI
SCALE: NONE	SHEET: 1 OF 4

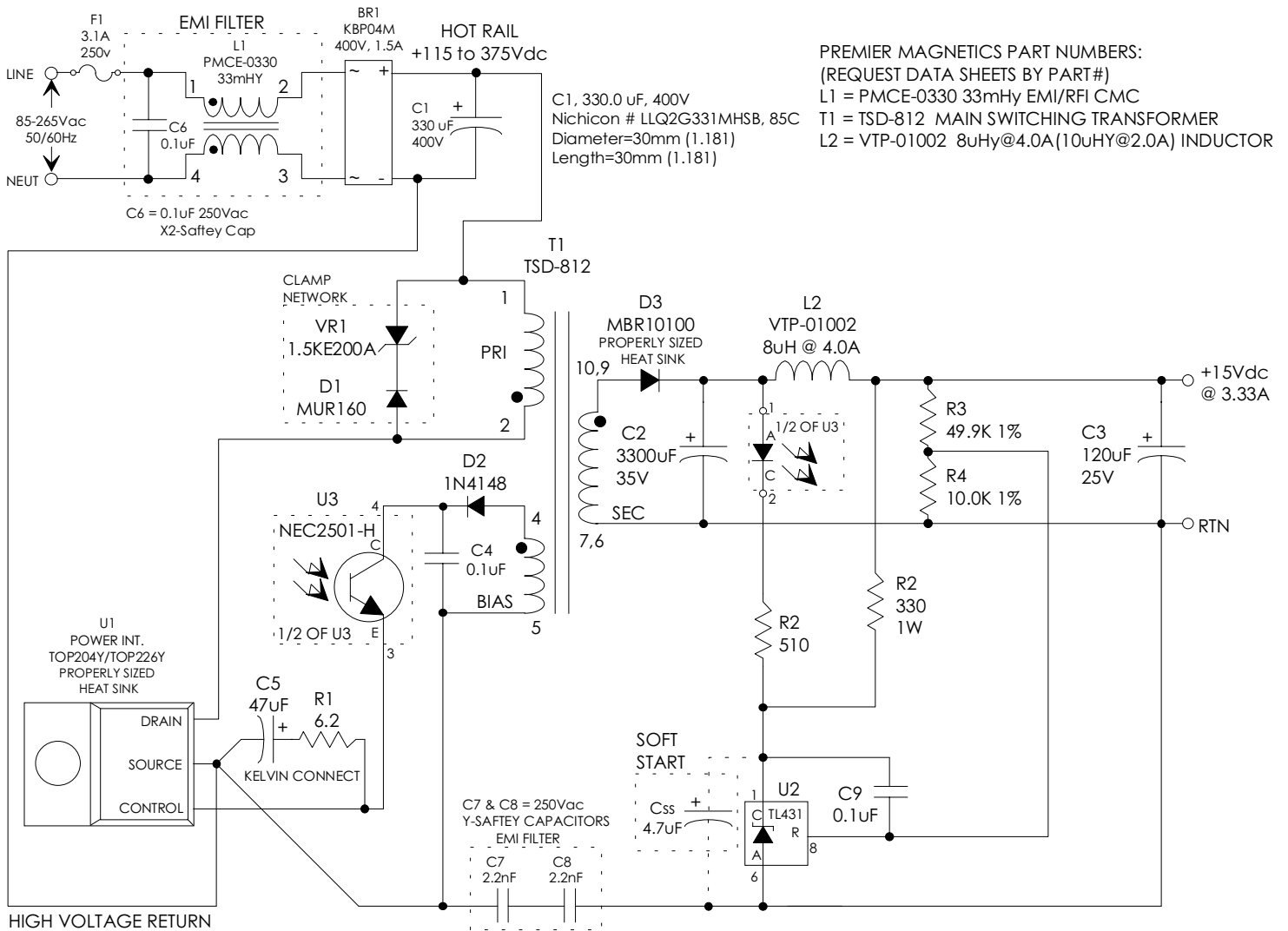
APPLICATION NOTES

Premier Magnetic's TSD-812 Switch Mode Transformer was designed for use with Power Integrations, Inc. PWR-TOP204YA1 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 TSD-812 transformer has been optimized to provide maximum power throughput. A lower height version of this same part is Premier part number POL-15033.

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 PWR-TOP204 switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only. A properly sized heat sink for the PWR-TOP204 is required for efficient and reliable operation. The use of the VTK-01002 (Sendust type) output inductor will provide maximum efficiency -vs- the lower cost VTP-01002 (-52 powdered iron). Soft start capacitor C_{ss} is optional and application dependent.

FIGURE 3: 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: TSD-812	REVISION: 05/17/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP204YA1
SCALE: NONE	SHEET: 2 OF 4