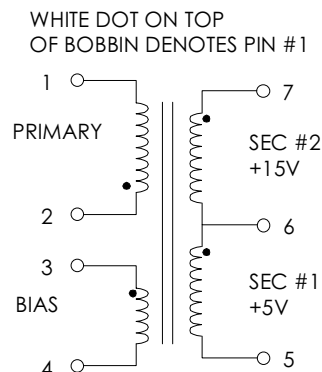


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C

SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
PWR-TOP201YAI. REFER TO APPLICATION CIRCUIT OF FIGURE 3.

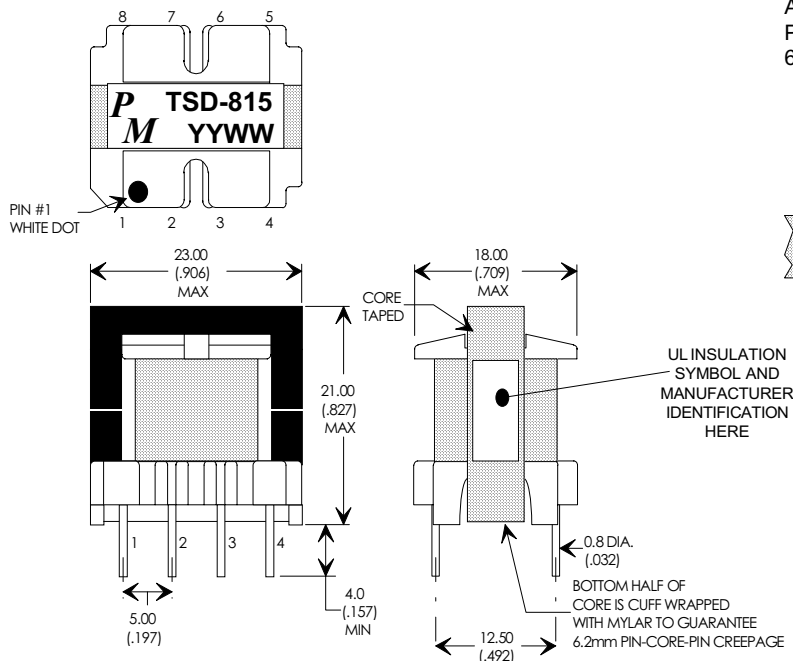
PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (2-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	1251	1390	1529	μHY
TURN RATIO'S: FULL SEC (7-5) : PRIMARY (2-1) SEC1 (6-5) : PRIMARY (2-1) BIAS (3-4) : PRIMARY (2-1)	-----	1: 6.917 1: 20.75 1: 9.222	-----	± 4% ± 4% ± 4%
PRI LEAKAGE IND. (7-5 SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	-----	-----	30.0	μHY
HIPOT: PRIMARY TO SECONDARY BIAS TO SECONDARY	3000 3000	----- -----	----- -----	Vrms Vrms
APP CIRCUIT PARAMETERS: (1) DC INPUT VOLTAGE OUTPUT VOLTAGE CONTINUOUS OUTPUT POWER LINE REGULATION (85 TO 265Vac) LOAD REGULATION 10-100% RIPPLE	324 ----- ----- ----- ----- -----	----- 15 & 5 ----- 0.20 0.20 100.0	396 ----- 20.0 ----- ----- -----	Vdc Vdc Watts ±% ±% ±mV

(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.

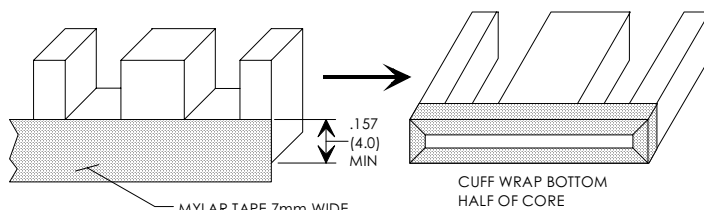
FIGURE 1: SCHEMATIC DIAGRAM**NOTE1:**

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) CORE CENTER POST MUST BE GROUND GAPPED TO MEET CONDUCTED MODE EMI NOISE IN ACCORDANCE WITH FCC/VDE CLASS B REQUIREMENT.
- E) VARNISH FINISHED ASSEMBLY.
- F) UL1950 & CSA-950 CERTIFIED: FILE #E162344.
- G) 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)**NOTE2:**

- A) BOTTOM HALF OF CORE IS CUFF WRAPPED PRIOR TO ASSEMBLY. THIS GARRANTEES 6.2mm CREEPAGE PIN-CORE-PIN



EI22/19/6, 8-PIN VERTICAL BOBBIN

REV.	DESCRIPTION OF CHANGES	BY
01/22/96	ORIGINAL RELEASE	TO
05/24/99	UPDATED TO UL CLASS (B) 130 INSULATION SYSTEM & LEAKAGE IND. TO 18.0uH	MD
09/23/99	CORRECT LEAKAGE INDUCTANCE BACK TO 30uH	PP



**Premier
Magnetics Inc.**

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-815	REVISION: 09/23/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP201YAI
SCALE: NONE	SHEET: 1 OF 6

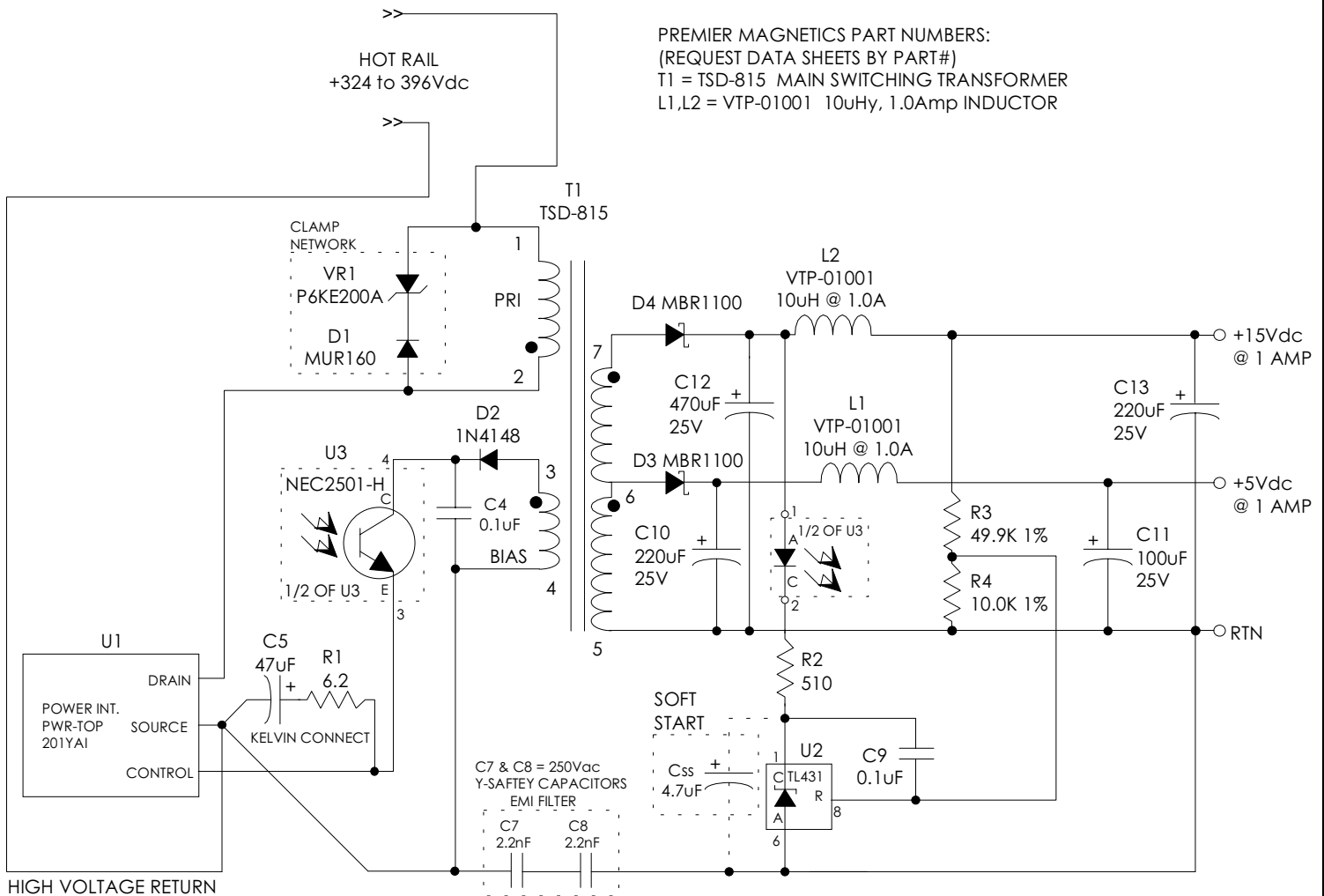
APPLICATION NOTES

Premier Magnetic's TSD-815 Switch Mode Transformer was designed for use with Power Integrations, Inc. PWR-TOP201YAI 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-815 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 20 watt application circuit utilizing Power Integrations PWR-TOP201 switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only. The soft start capacitor C_{SS} is optional depending on the specific application. Simpler topology is possible depending on the line/load regulation required.

FIGURE 3: TYPICAL APPLICATION CIRCUIT



**Premier
Magnetics Inc.**

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-815	REVISION: 09/23/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP201YAI
SCALE: NONE	SHEET: 2 OF 6