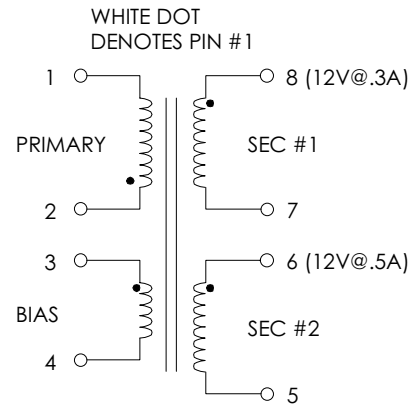


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C
 SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
 PWR-TOP223YAI. REFER TO APPLICATION CIRCUIT OF FIGURE 3.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (2-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	950	1000	1050	μHY
TURN RATIO'S: SEC#1 (8-7) : PRIMARY (2-1) SEC#2 (6-5) : PRIMARY (2-1) BIAS (3-4) : PRIMARY (2-1)	---	1:7.75	---	± 3%
PRI LEAKAGE IND (SEC'S SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	---	---	TBD	μHY
HIPOT: PRIMARY TO SECONDARIES BIAS TO SECONDARIES	3000 3000	----- -----	----- -----	Vrms Vrms
APP CIRCUIT PARAMETERS: (1) AC LINE VOLTAGE 47/400 Hz OUTPUT VOLTAGE EACH OUTPUT OUTPUT CURRENT SEC#1 OUTPUT CURRENT SEC#1 LINE REGULATION (85 TO 265Vac) LOAD REGULATION 25-100% RIPPLE	85 ----- 0.050 0.050 ----- ----- -----	----- 12.0 ----- ----- 1.25 1.50 200.0	265 ----- 0.300 0.500 ----- ----- -----	Vac ±Vdc ±Amps ±Amps ±% ±% ±mV

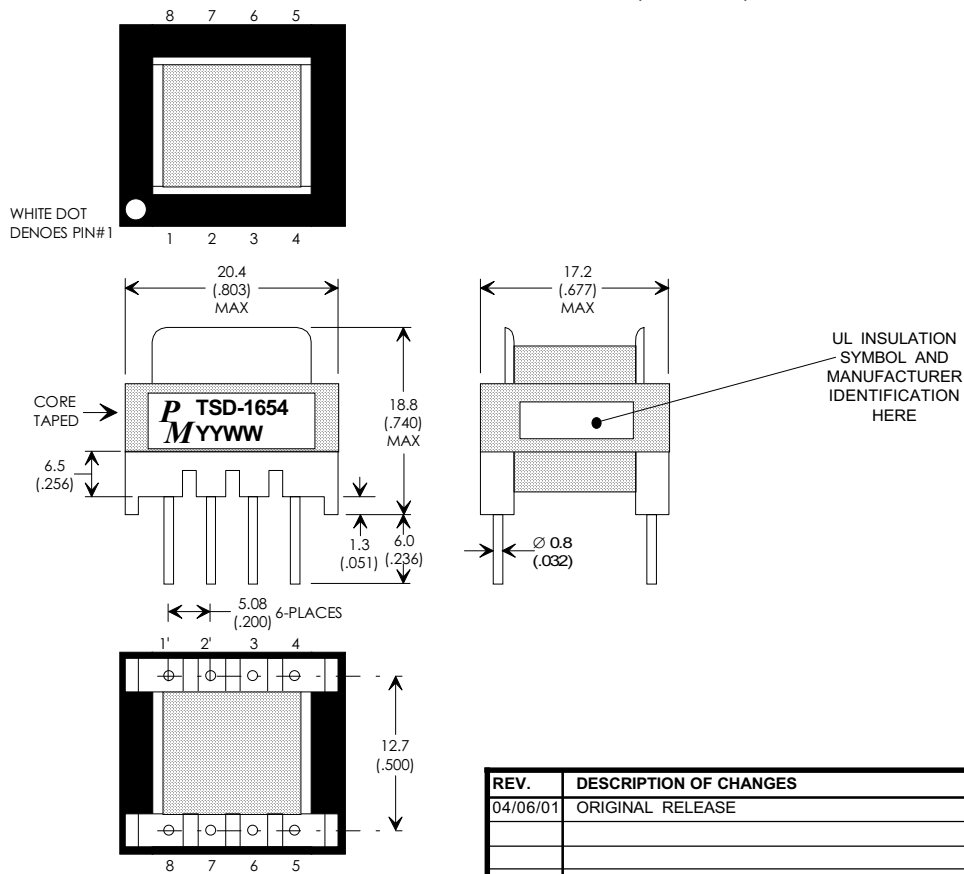
FIGURE 1: SCHEMATIC DIAGRAM



NOTE1:
REINFORCED INSULATION SYSTEM, UL1950, IEC950, CSA-950:
 A) ALL MATERIALS MEET "UL", "CSA" & "IEC" REQUIREMENTS
 B) TRIPLE BASIC INSULATED SECONDARY.
 C) VARNISH FINISHED ASSEMBLY.

(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.

FIGURE 2: PHYSICAL DIMENSIONS mm (INCHES)



EE19/EI19 (E187), 8-PIN HORIZ BOBBIN

REV.	DESCRIPTION OF CHANGES	BY
04/06/01	ORIGINAL RELEASE	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-1654	REVISION: 04/06/01
DRAWN BY: PETER PHAM	REF: PWR-TOP223YAI
SCALE: NONE	SHEET: 1 OF 6

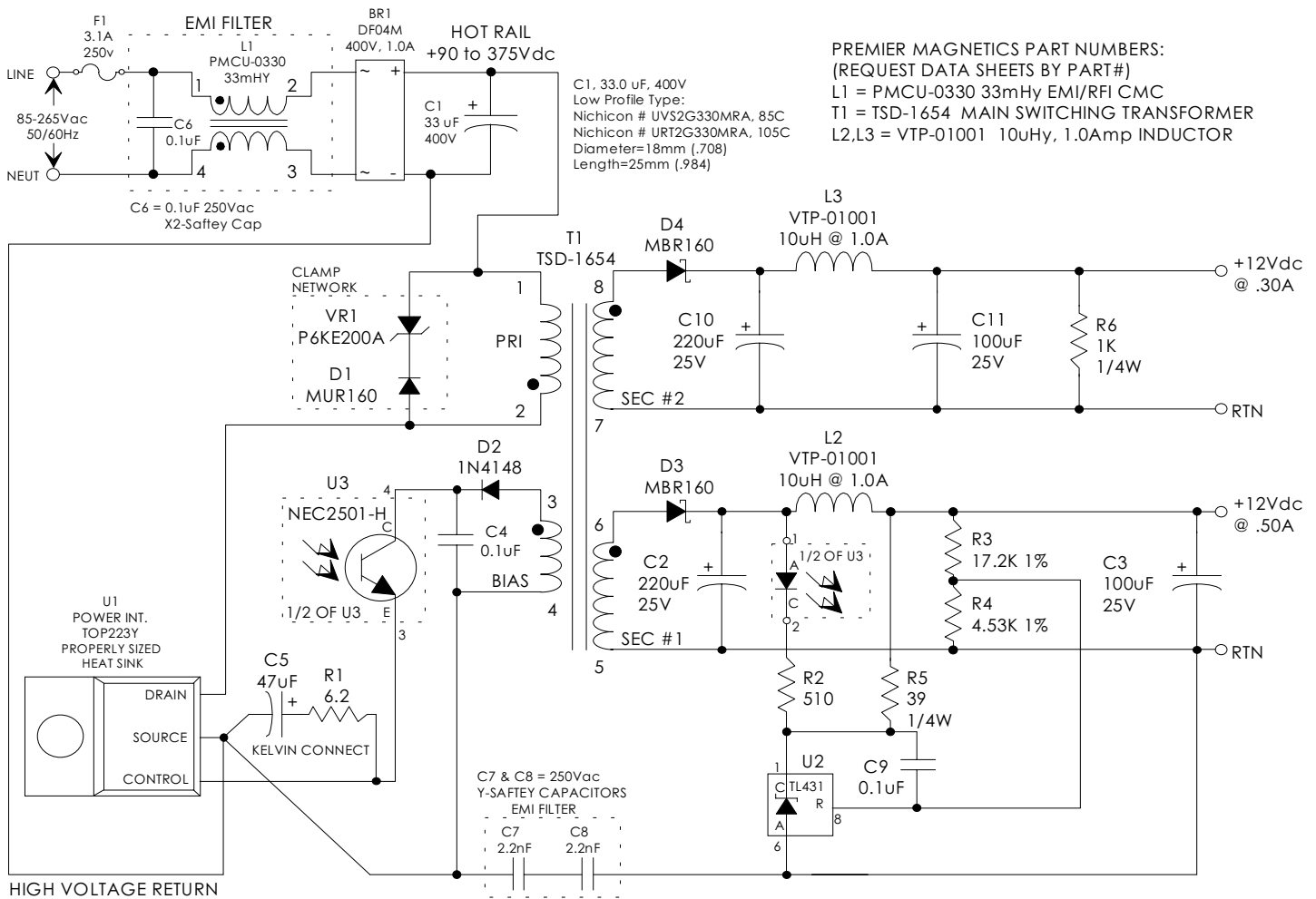
APPLICATION NOTES

Premier Magnetics' TSD-1654 Switch Mode Transformer was designed for use with Power Integrations, Inc. PWR-TOP223YA1 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-1654 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 Dual Output 10 watt application circuit utilizing Power Integrations PWR-TOP223 switching regulator in the flyback buck-boost configuration. As such the line & load regulation are worse than that which could be achieved by utilizing an opto-coupler to sense the actual outputs. Please consult our application department for assistance on the opto-coupler version. The component values listed are intended for reference purposes only. Resistor R1 may be adjusted up to 100 Ohms MAX. and down to 11 Ohms MIN. As R1 increases in value the output voltages will increase, and vice-versa, thus allowing some fine adjustment on the initial output voltage.

FIGURE 3: TYPICAL LOW COST 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-1654	REVISION: 04/06/01
DRAWN BY: PETER PHAM	REF: PWR-TOP223YA1
SCALE: NONE	SHEET: 2 OF 6