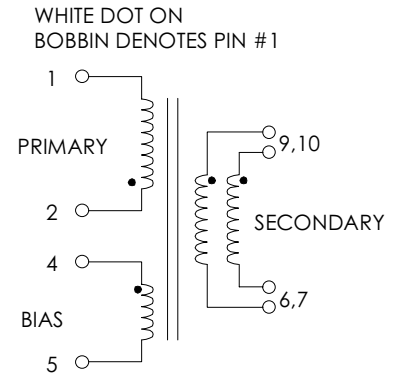


**TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C**  
 SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS  
 PWR-TOP204YA1. REFER TO APPLICATION CIRCUIT OF FIGURE 3.  
 PFC FRONT END.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (2-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	990	1100	1210	μHY
TURN RATIO'S: SEC (9,10-6,7) : PRIMARY (2-1) BIAS (3-4) : PRIMARY (2-1)	-----	1:14.67 1:8.80	-----	± 3% ± 3%
PRI LEAKAGE IND. (SEC SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	-----	22.0	25.0	μHY
HIPOT: PRIMARY TO SECONDARY BIAS TO SECONDARY	3000 3000	----- -----	----- -----	Vrms Vrms
APP CIRCUIT PARAMETERS: (1) DC INPUT VOLTAGE OUTPUT VOLTAGE OUTPUT CURRENT CONTINUOUS OUTPUT CURRENT PEAK LINE REGULATION (85 TO 265Vac) LOAD REGULATION 10-100% RIPPLE	300 ----- 0.0 ----- ----- ----- -----	----- 8.5 ----- ----- 0.20 0.20 50.0	375 ----- 4.0 4.5 ----- ----- -----	Vac Vdc Amps Amps ±% ±% ±mV

(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.

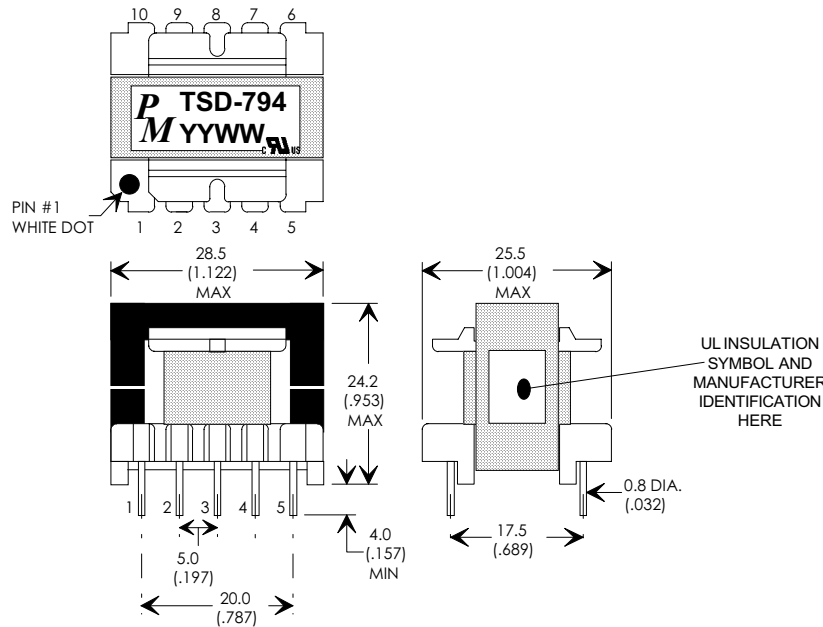
**FIGURE 1: SCHEMATIC DIAGRAM**



SECONDARY PINS #9 & 10, #6 & 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)**



EE, EI28/11, 10-PIN VERTICAL BOBBIN

REV.	DESCRIPTION OF CHANGES	BY
12/06/95	ORIGINAL RELEASE	TO
01/18/96	INCREASED PRIMARY INDUCTANCE	TO
05/14/99	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-794	REVISION: 05/14/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP204YA1
SCALE: NONE	SHEET: 1 OF 6

## APPLICATION NOTES

Premier Magnetics' TSD-794 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-794 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 high precision 35 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. 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**

