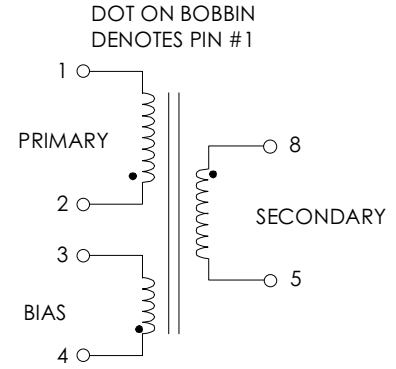


**TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C**

SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS  
 PWR-TOP210PFI REFER TO APPLICATION CIRCUIT OF FIGURE 3.  
 (IMPROVED INSULATION VERSION OF TRD1 ON POWER INTEGRATIONS  
 RD1 REFERENCE DESIGN BOARD)

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (2-1) FREQ. = 100 KHZ @ 0.250Vrms	7.10	8.10	9.10	mHY
TURNRATIO'S: SECONDARY (8-5) : PRIMARY (2-1) BIAS (4-3) : PRIMARY (2-1)	-----	1:17.00 1:14.17	-----	± 3% ± 3%
PRI LEAKAGE IND. (8-5 SHORTED) FREQ. = 100 KHZ @ 0.250Vrms	-----	85.0	150.0	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 ----- ----- ----- -----	----- 5.0 ----- ----- 1.50 5.00 25.0	265 ----- 600 800 ----- ----- -----	Vac Vdc mA mA ±% ±% ±mV

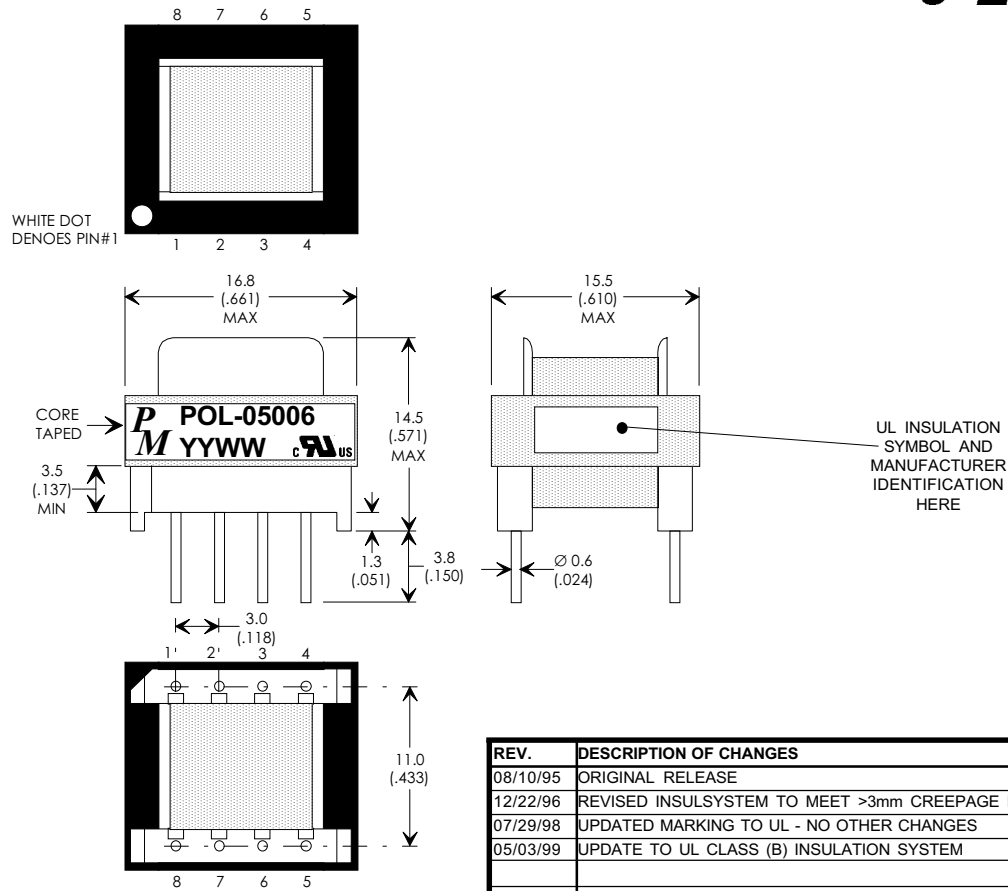
**FIGURE 1: SCHEMATIC DIAGRAM**



**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.  
 D) UL 1950 & CSA-950 CERTIFIED: FILE #E162344.  
 E) UL CLASS (B) 130 INSULATION SYSTEM PM130-R1,  
 PM130-H1, 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)**



REV.	DESCRIPTION OF CHANGES	BY
08/10/95	ORIGINAL RELEASE	TO
12/22/96	REVISED INSULSYSTEM TO MEET >3mm CREEPAGE BIAS TO SEC	TO
07/29/98	UPDATED MARKING TO UL - NO OTHER CHANGES	AS
05/03/99	UPDATE TO UL CLASS (B) INSULATION SYSTEM	MD

EE16/EI16, 8-PIN HORIZONTAL



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-05006	REVISION: 05/03/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP210PFI
SCALE: NONE	SHEET: 1 OF 6

### APPLICATION NOTES

Premier Magnetics' POL-05006 Switch Mode Transformer was designed for use with Power Integrations, Inc. PWR-TOP210PFI 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-05006 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, 3 watt application circuit utilizing Power Integrations PWR-TOP210 switching regulator in the flyback buck-boost configuration. This circuit provides +5Vdc at 600mA continuous and is capable of 800mA peak for short periods of time. This circuit represents the lowest cost implementation and utilizes the bias winding for feedback control. As such the line & load regulation are worse than that which could be achieved by utilizing an opto-coupler to sense the actual outputs. If tighter line/load regulation is required please refer to Premier Magnetics TSD-816 data sheet. The component values listed are intended for reference purposes only. Resistor R1 may be adjusted up to 50 Ohms MAX. and down to 10 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. The EMI/RFI capacitors C7 & C8 are shown for reference but may not be needed to meet EMI/RFI emission specifications.

**FIGURE 3: TYPICAL APPLICATION CIRCUIT**

