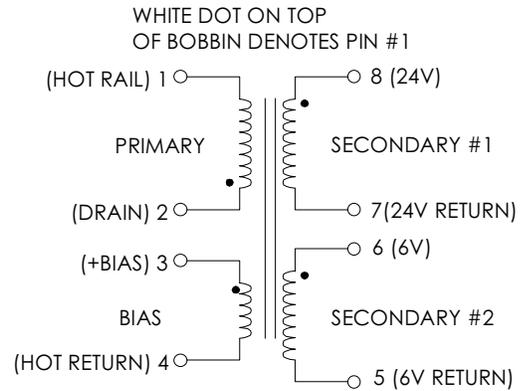


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C
 SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
 TOP222. REFER TO APPLICATION CIRCUIT OF FIGURE 3.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (2-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	1980	2200	2420	μHY
TURN RATIO'S: BIAS (3-4) : PRIMARY (2-1) SEC #1 (8-7) : PRIMARY (2-1) SEC #2 (6-5) : PRIMARY (2-1)	-----	1: 10.0 1: 4.28 1: 18.0	-----	± 4% ± 4% ± 4%
PRI LEAKAGE IND. (SEC SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	-----	-----	65	μHY
HIPOT: PRIMARY & BIAS TO SECONDARIES	3000	-----	-----	Vrms
APP CIRCUIT PARAMETERS: AC LINE VOLTAGE 47/400 Hz SEC #1 OUTPUT VOLTAGE (1) OUTPUT CURRENT CONTINUOUS SEC #2 OUTPUT VOLTAGE OUTPUT CURRENT CONTINUOUS	85 10 500	----- +24.0 ----- 6.0 -----	265 +100 550	Vac Vdc mA Vdc mA

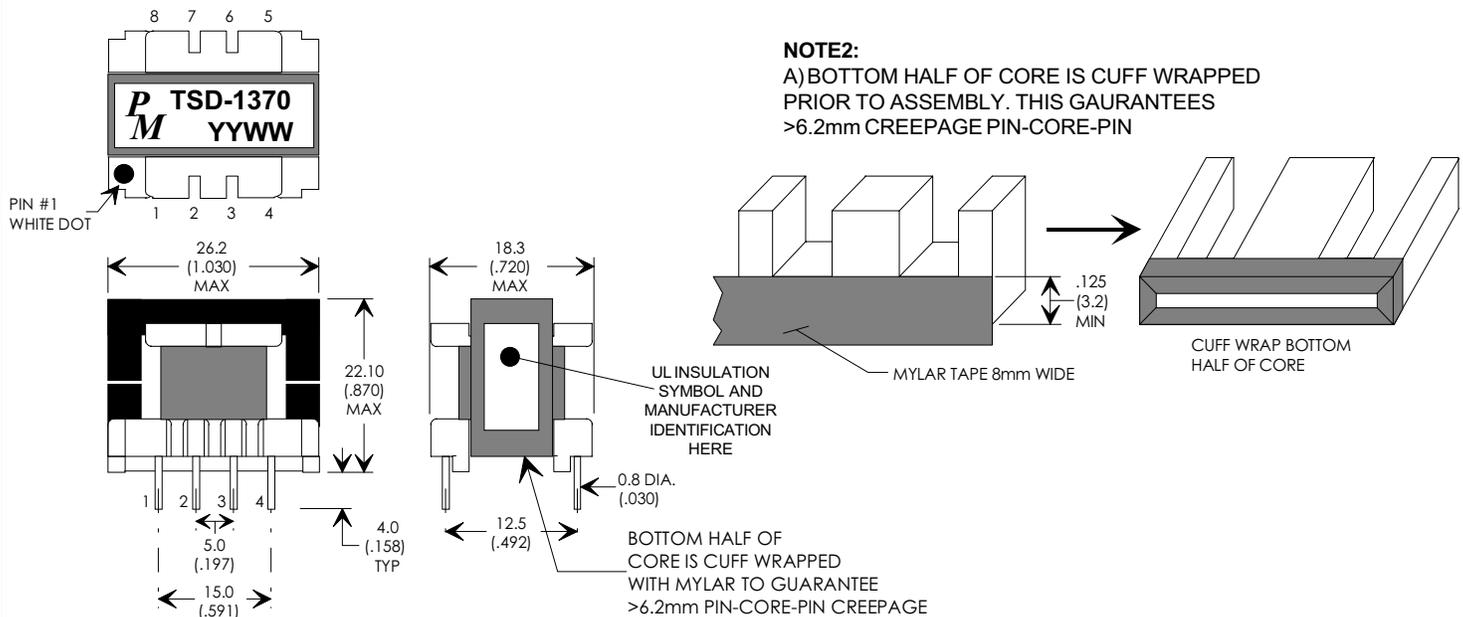
FIGURE 1: SCHEMATIC DIAGRAM



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 CLASS (B) 130 INSULATION SYSTEM PM130-R1,
 PM130-H1, PM130-H1A (UL FILE #E177139) OR ANY UL
 AUTHORIZED CLASS (B) INSULATION SYSTEM.

(1) SECONDARY #1 INTENDED TO FED A 24V LINEAR REGULATION

FIGURE 2: PHYSICAL DIMENSIONS mm (INCHES)



REV.	DESCRIPTION OF CHANGES	BY
01/15/99	ORIGINAL RELEASE	PP
09/20/99	UPDATE TO UL CLASS (B) 130 INSULATION SYSTEM	MD

EE25.4 (FEI25, FEE25, EE2425), 8-PIN VERTICAL BOBBIN



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-1370	REVISION: 09/20/99
ENGR: PETER PHAM	REF: TOP222
SCALE: NONE	SHEET: 1 OF 6

APPLICATION NOTES

Premier Magnetics' TSD-1370 Switch Mode Transformer was designed for use with Power Integrations, Inc. PWR-TOP222 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-1370 transformer has been optimized to provide maximum power throughput.

The TOPSwitch-II 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 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 7 watt application circuit utilizing Power Integrations TOP222 switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only.

FIGURE 3: TYPICAL APPLICATION CIRCUIT

PREMIER MAGNETICS PART NUMBERS:
(REQUEST DATA SHEETS BY PART#)

- L1 = PMCU-0220 22mHy EMI/RFI CMC
- T1 = TSD-1370 MAIN SWITCHING TRANSFORMER
- L2 = VTP-01001 10uHy, 1.0Amp INDUCTOR

ALUMINUM ELECTROLYTIC FILTER CAPACITOR RATINGS:

- +6V OUTPUT: C2 ≥16V, Ripple Rated ≥ 650mA @ 100KHz @ Max. Op. Temp.
- +24V OUTPUT: C4 ≥50V, Ripple Rated ≥ 118mA @ 100KHz @ Max. Op. Temp.
- PANASONIC HFG SERIES: LOW IMPEDANCE RADIAL SERIES
- C2 = 1000uF, 16V = PANASONIC ECA1CFG102
- C3 = 100uF, 10V = PANASONIC ECA1AFG101
- C4, C5 = 47uF, 50V = PANASONIC ECA1HFG470
- C10 = 33uF, 35V = PANASONIC ECA1VFG330

