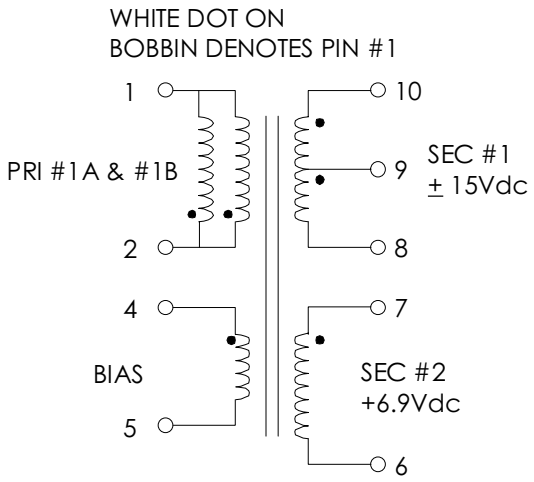
TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C

SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS PWR-TOP224. REFER TO APPLICATION CIRCUIT OF FIGURE 3.

PARAMETER	SPEC LIMITS MIN.	TYP.	MAX.	UNITS
PRIMARY INDUCTANCE (3-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	720	800	880	µHY
TURN RATIO'S: SEC #1 (10-8) : PRIMARY (2-1) SEC #2 (7-6) : PRIMARY (2-1) BIAS (4-5) : PRIMARY (2-1)	-------- -------- --------	1: 2.40 1: 9.60 1: 6.00	-------- -------- --------	± 4% ± 4% ± 4%
PRI LEAKAGE IND. (SEC SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	--------	--------	8.0	µHY
HIPOT: PRIMARY TO SECONDARY BIAS TO SECONDARY	3000 3000	-------- --------	-------- --------	Vrms Vrms
APP CIRCUIT PARAMETERS: (1) AC LINE VOLTAGE 47/400 Hz SEC #1 OUTPUT VOLTAGE SEC #1 OUTPUT CURRENT SEC #2 REGULATED OUTPUT SEC #2 OUTPUT CURRENT	 85 -------- 25.0 -------- 0.0	 -------- 15.0 -------- 6.9 --------	 265 -------- 800 -------- 350	 Vac ±Vdc ±mA Vdc mA

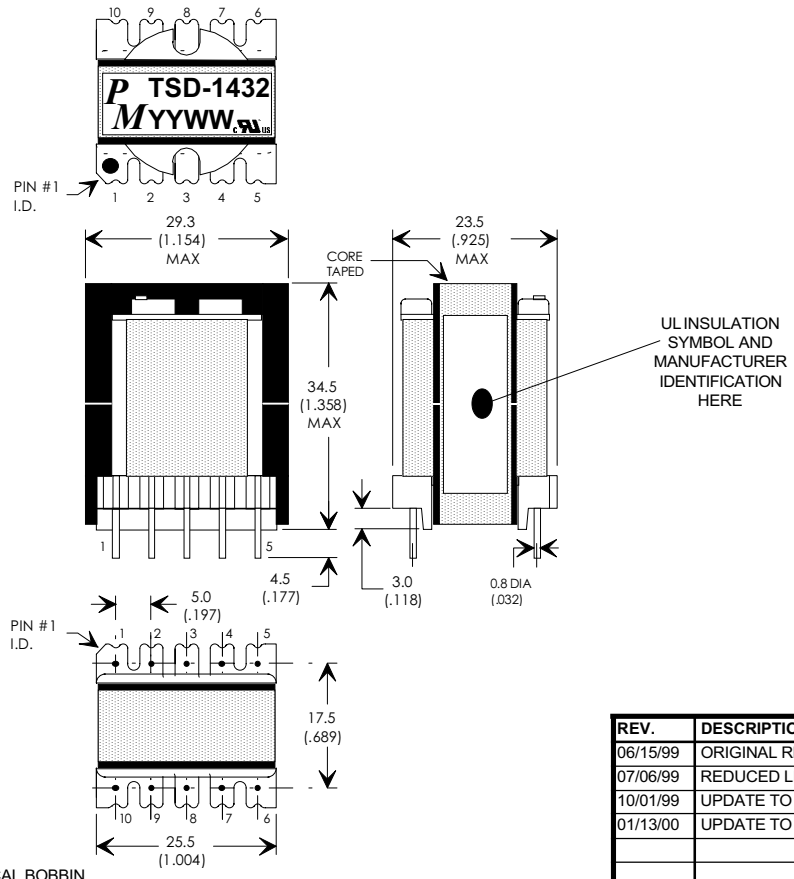
(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.

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) 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)



EER28L, 10-PIN VERTICAL BOBBIN

REV.	DESCRIPTION OF CHANGES	BY
06/15/99	ORIGINAL RELEASE, TSD-860 MODIFIED FOR LOWEST TEMP. RISE	TO
07/06/99	REDUCED LEAKAGE INDUCTANCE BASED ON ACTUAL PARTS	TO
10/01/99	UPDATE TO UL CLASS (B) 130 INSULATION SYSTEM	MD
01/13/00	UPDATE TO UL RECOGNIZED FILE #E162344	MD

Premier Magnetics Inc.
"INNOVATORS IN MAGNETICS TECHNOLOGY"

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM
DIMENSIONAL TOLERANCES ARE:
DECIMALS ANGLES
.X ± .25 ±0° 30'
.XX ± .15
DO NOT SCALE DRAWING

FLYBACK TRANSFORMER CONTROL DRAWING

PREMIER P/N: TSD-1432	REVISION: 01/13/00
DRAWN BY: TOM O'NEIL	REF: PWR-TOP224
SCALE: NONE	SHEET: 1 OF 6

APPLICATION NOTES

Premier Magnetic's TSD-1432 Switch Mode Transformer was designed for use with Power Integrations, Inc. PWR-TOP224Y 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-1432 transformer has been optimized to provide the specified power throughput while also providing for a low transformer temperature rise.

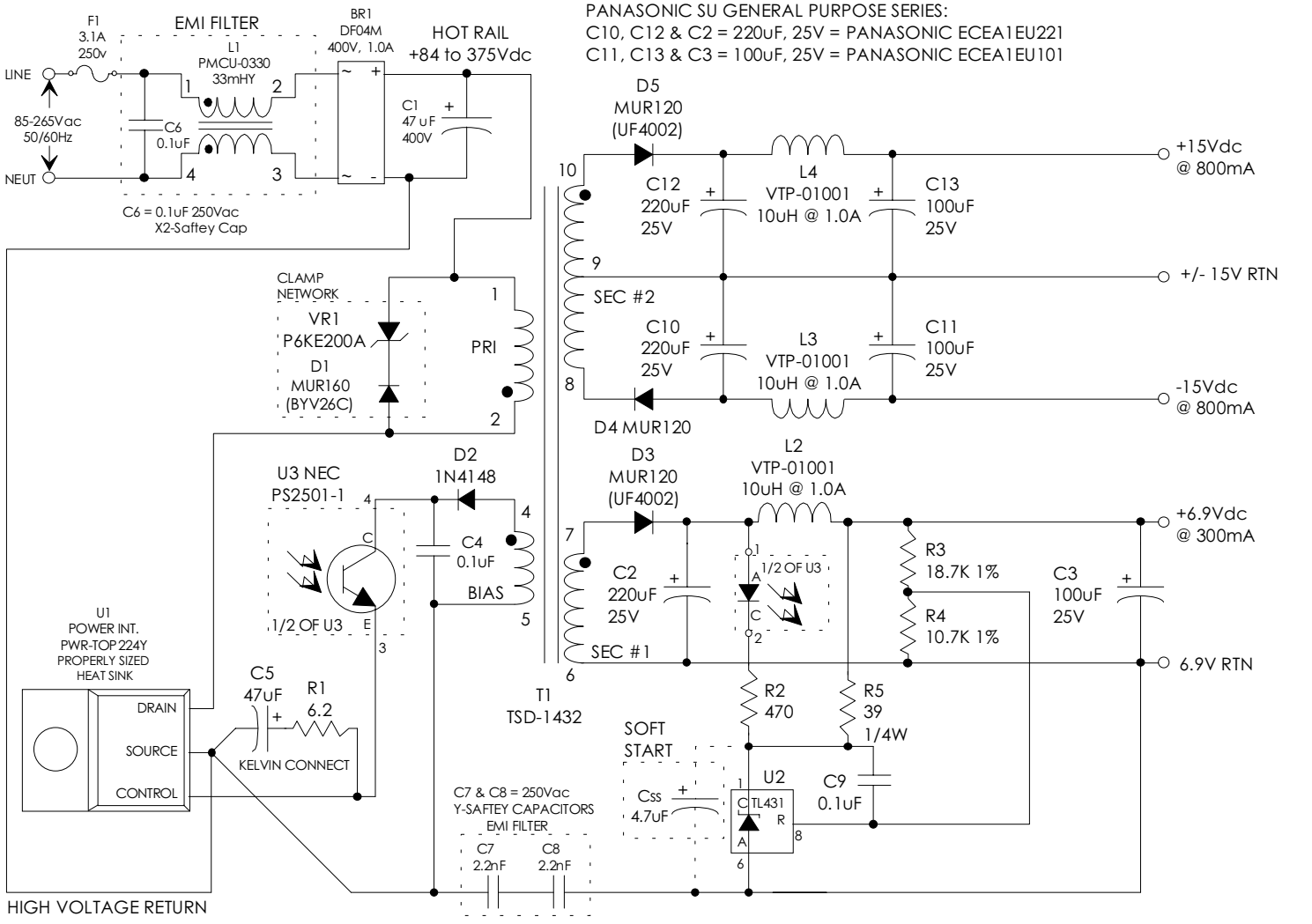
The PWR-TOPXXX series from Power Integrations, Inc. are self contained 100KHz three terminal voltage controlled PWM switching regulators. This series contains all necessary functions for an off-line switched mode control DC power source. These switching regulators provide a very simple solution to off-line 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 26 watt application circuit utilizing Power Integrations PWR-TOP224 switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only. A properly sized heat sink for the PWR-TOP224+
is required for efficient and reliable operation. Soft start capacitor Css is optional and application dependent.

FIGURE 3: TYPICAL APPLICATION CIRCUIT

PREMIER MAGNETICS PART NUMBERS:
(REQUEST DATA SHEETS BY PART#)
L1 = PMCU-0330 33mHy EMI/RFI CMC
T1 = TSD-1432 MAIN SWITCHING TRANSFORMER
L2 = VTP-01001 10uHy, 1.0Amp INDUCTOR

ALUMINUM ELECTROLYTIC FILTER CAPACITOR RATINGS:
±15V OUTPUT: C10 & C12 ≥25V, Ripple Rated≥ 400mA @ 100KHz @ Max. Op. Temp.
+6.9V OUTPUT: C2 ≥10V, Ripple Rated≥ 300mA @ 100KHz @ Max. Op. Temp.
PANASONIC SU GENERAL PURPOSE SERIES:
C10, C12 & C2 = 220uF, 25V = PANASONIC ECEA1EU221
C11, C13 & C3 = 100uF, 25V = PANASONIC ECEA1EU101



Premier Magnetics Inc. "INNOVATORS IN MAGNETICS TECHNOLOGY"	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM DIMENSIONAL TOLERANCES ARE: DECIMALS ANGLES .X ± .25 ±0° 30' .XX ± .15 DO NOT SCALE DRAWING	**FLYBACK TRANSFORMER CONTROL DRAWING**
		PREMIER P/N: TSD-1432 — REVISION: 01/13/00
		DRAWN BY: TOM O'NEIL — REF: PWR-TOP224
		SCALE: NONE — SHEET: 2 OF 6