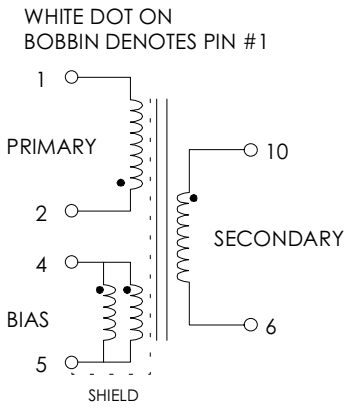
TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C

SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS PWR-TOP204YAI. REFER TO APPLICATION CIRCUIT OF FIGURE 3.

PARAMETER	SPEC LIMITS MIN.	TYP.	MAX.	UNITS
PRIMARY INDUCTANCE (2-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	565	628	691	µHY
TURN RATIO'S: SEC (10-6) : PRIMARY (2-1) BIAS (3-4) : PRIMARY (2-1)	-------- --------	1:5.00 1:9.00	-------- --------	±4% ±4%
PRI LEAKAGE IND. (SEC SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	--------	--------	30.0	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% OUTPUT SWITCH FREQ. RIPPLE 115V TEMP RISE @ FULL LOAD	 85 -------- 0.0 -------- -------- -------- -------- --------	 -------- 24 (22) -------- -------- 0.20 0.30 50.0 15.0	 265 -------- 1.3 (1.5) 1.5 (1.7) -------- -------- -------- --------	 Vac Vdc Amps Amps ±% ±% ±mV °C

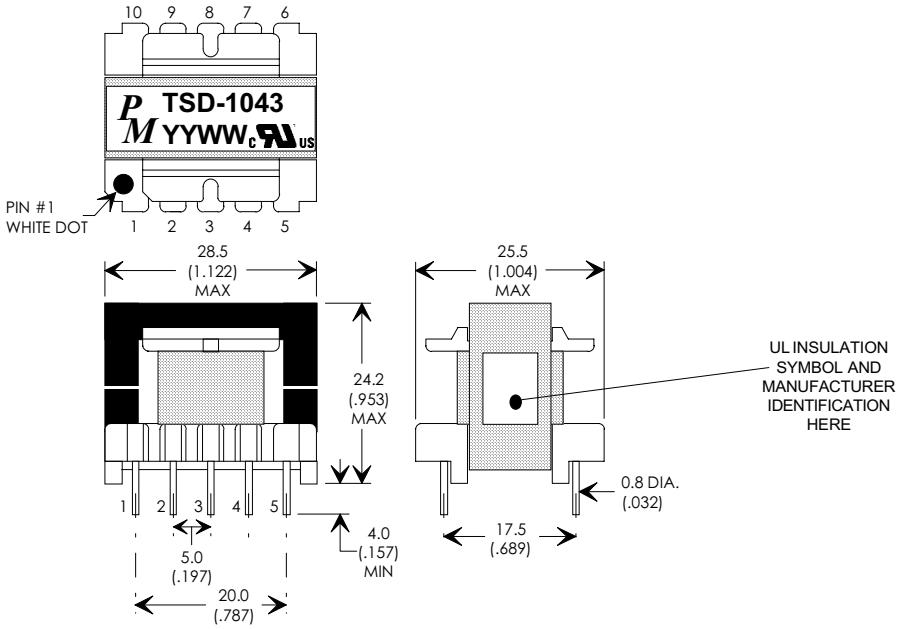
(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.
VALUES IN PARANTHESIS ARE FOR THE 22V @ 1.5A CIRCUIT VARIATION.

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) FARADAY SHIELD BETWEEN PRIMARY & BIAS TO SEC.
E) VARNISH FINISHED ASSEMBLY.
F) UL1950 & CSA-950 CERTIFIED: FILE #E162344.
G) 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)



REV.	DESCRIPTION OF CHANGES	BY
06/04/97	ORIGINAL RELEASE, SHIELDED VERSION OF POL-24013	TO
05/27/99	UPDATED TO UL CLASS (B) 130 INSULATION SYSTEM	MD

EE, EI28/11, 10-PIN VERTICAL BOBBIN

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-1043	REVISION: 05/27/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP204YAI
SCALE: NONE	SHEET: 1 OF 6

APPLICATION NOTES

Premier Magnetics' TSD-1043 is a Faraday Shielded Version of our POL-24013 Switch Mode Transformer and is designed for use with Power Integrations, Inc. PWR-TOP204YAI 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%. Premiers' TSD-1043 & POL-24013 transformer have 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.

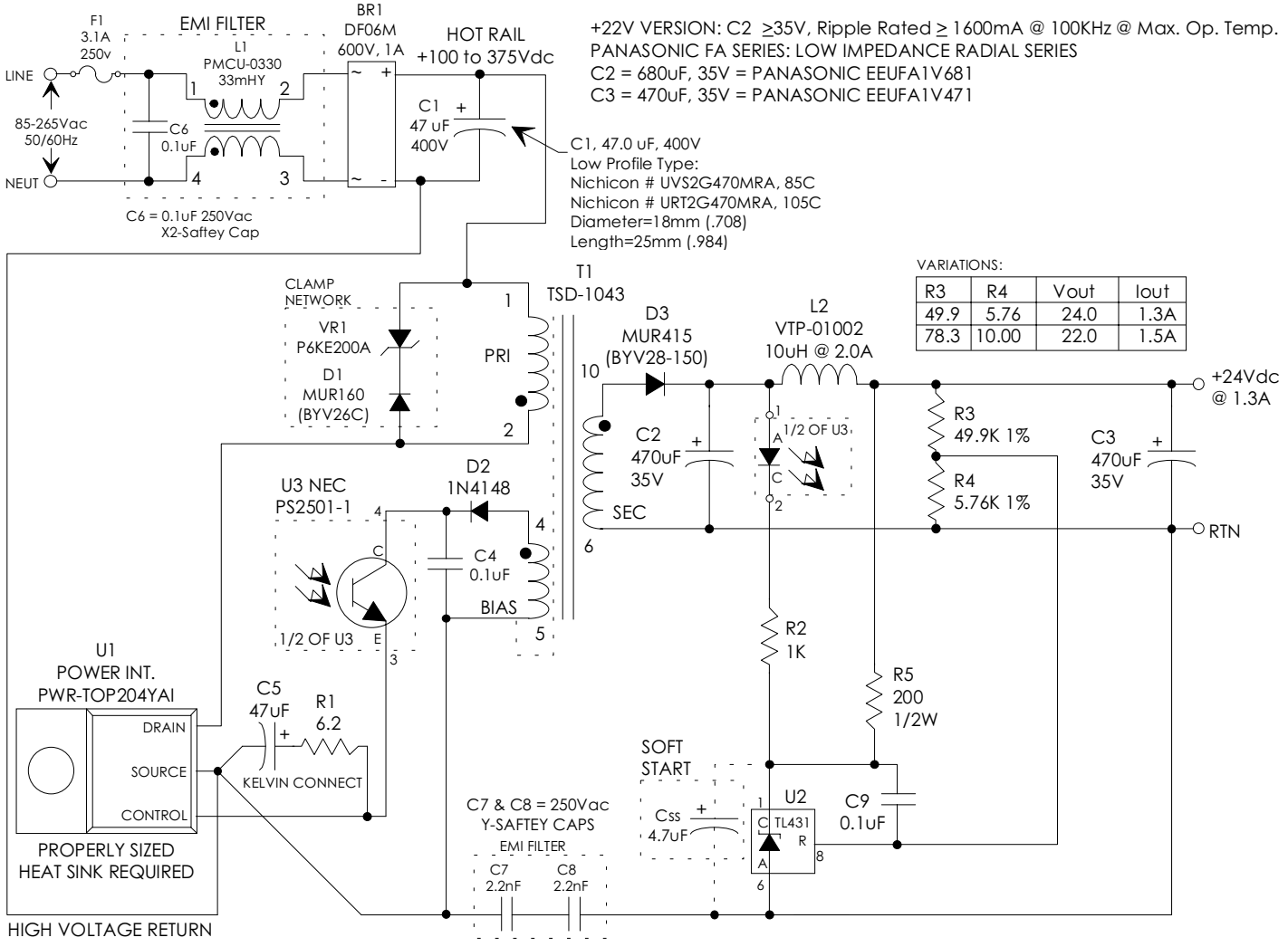
Below is a universal input high precision 33 watt application circuit utilizing Power Integrations PWR-TOP204 switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only. A variation table of resistor values for R3 & R4 is given allowing adjustment of the output voltage & current. Soft start capacitor Css is optional depending on the specific application.

FIGURE 3: TYPICAL APPLICATION CIRCUIT

PREMIER MAGNETICS PART NUMBERS:
(REQUEST DATA SHEETS BY PART#)
L1 = PMCU-0330 33mHy EMI/RFI CMC
T1 = TSD-1043 MAIN SWITCHING TRANSFORMER
L2 = VTP-01002 10uHy, 2.0Amp INDUCTOR

ALUMINUM ELECTROLYTIC FILTER CAPACITOR RATINGS:
+24V OUTPUT: C2 ≥35V, Ripple Rated ≥ 1400mA @ 100KHz @ Max. Op. Temp.
PANASONIC FA SERIES: LOW IMPEDANCE RADIAL SERIES
C2 = 470uF, 35V = PANASONIC EEUFA1V471
C3 = 470uF, 35V = PANASONIC EEUFA1V471

+22V VERSION: C2 ≥35V, Ripple Rated ≥ 1600mA @ 100KHz @ Max. Op. Temp.
PANASONIC FA SERIES: LOW IMPEDANCE RADIAL SERIES
C2 = 680uF, 35V = PANASONIC EEUFA1V681
C3 = 470uF, 35V = PANASONIC EEUFA1V471



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-1043 — REVISION: 05/27/99
		DRAWN BY: TOM O'NEIL — REF: PWR-TOP204YAI
		SCALE: NONE — SHEET: 2 OF 6