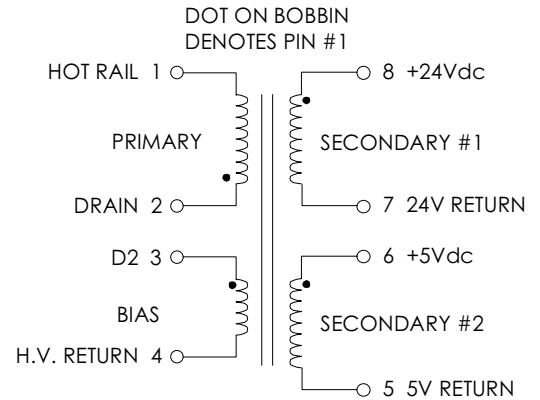


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C

SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
PWR-TOP210PFI REFER TO APPLICATION CIRCUIT OF FIGURE 3

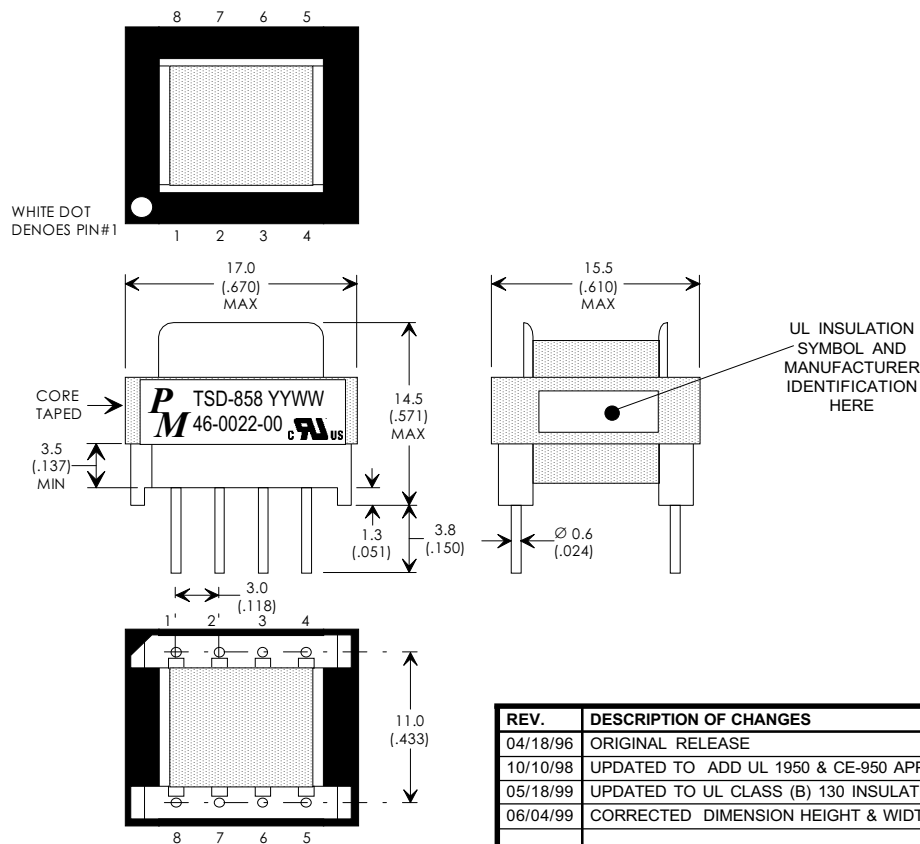
PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (2-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	3.07	3.42	3.77	mHY
TURN RATIO'S: SEC #1 (8-7) : PRIMARY (2-1) SEC #2 (6-5) : PRIMARY (2-1) BIAS (3-4) : PRIMARY (2-1)	—	1: 5.773 1: 25.40 1: 12.70	—	± 4% ± 4% ± 4%
PRI LEAKAGE (8-7 & 6-5 SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	—	125.0	140.0	μHY
HIPOT: PRIMARY TO SECONDARY'S BIAS TO SECONDARY'S	3000 3000	— —	— —	Vrms Vrms
APP CIRCUIT PARAMETERS: (1) AC LINE VOLTAGE 47/400 Hz SEC #2 VOLTAGE (REGULATED) OUTPUT CURRENT CONTINUOUS SEC #1 VOLTAGE OUTPUT CURRENT CONTINUOUS LINE REGULATION (85 TO 265Vac) LOAD REGULATION 10-100% RIPPLE	85 0.0 5.0 — — —	— 5.0 24.0 0.20 0.20 50.0	265 300 80 — — —	Vac Vdc mA Vdc mA ±% ±% ±mV

(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) VARNISH FINISHED ASSEMBLY.
- D) UL1950 & 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.

FIGURE 2: PHYSICAL DIMENSIONS mm (INCHES)

EE16/EI16, 8-PIN HORIZONTAL

REV.	DESCRIPTION OF CHANGES	BY
04/18/96	ORIGINAL RELEASE	TO
10/10/98	UPDATED TO ADD UL 1950 & CE-950 APPROVAL & MARKING	TO
05/18/99	UPDATED TO UL CLASS (B) 130 INSULATION SYSTEM	MD
06/04/99	CORRECTED DIMENSION HEIGHT & WIDTH	PP

TRANSFORMER CONTROL DRAWING

PREMIER P/N: TSD-858	REVISION: 06/04/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP210PFI
SCALE: NONE	SHEET: 1 OF 6



**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



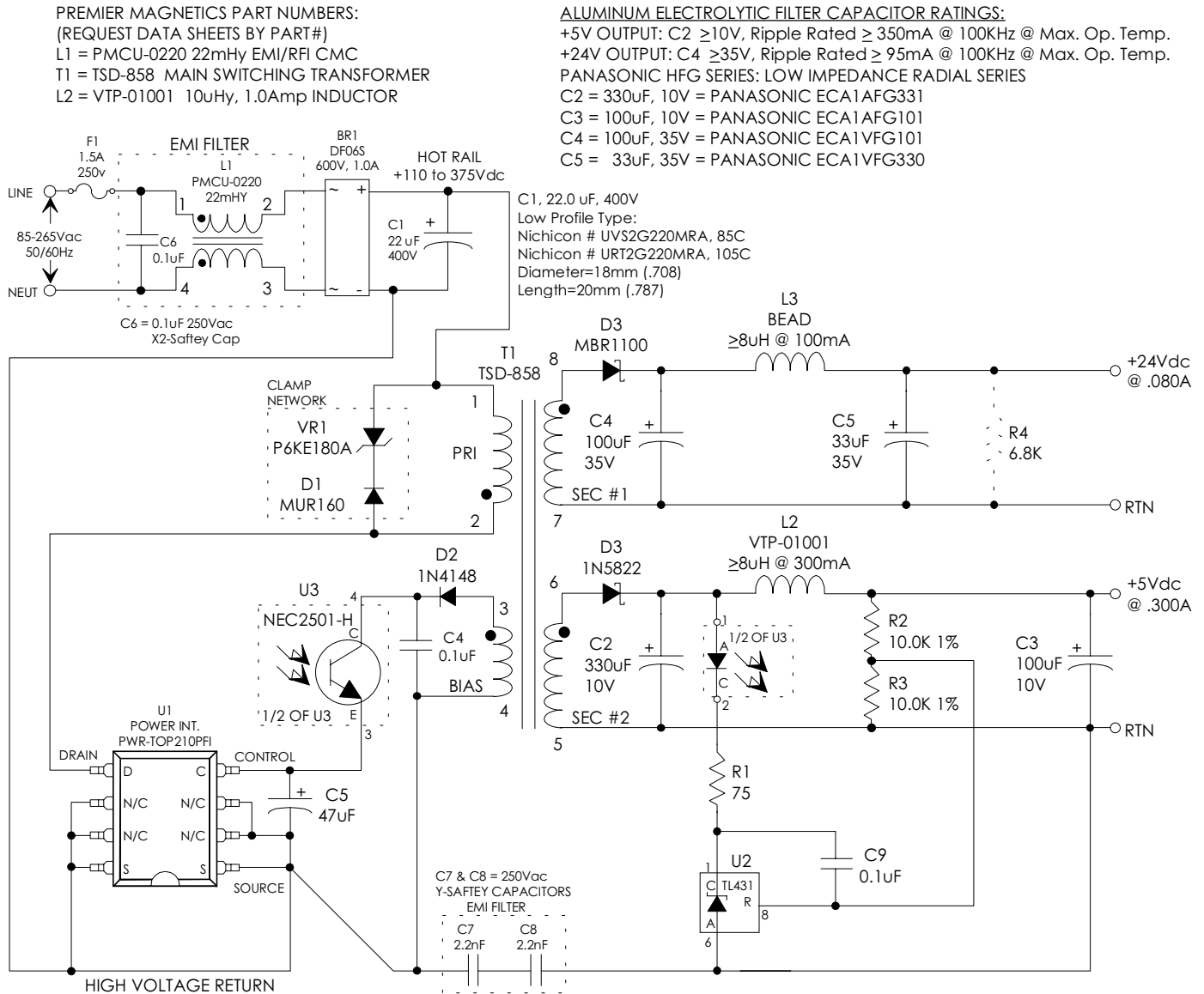
APPLICATION NOTES

Premier Magnetic's TSD-858 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%. Premiers' TSD-858 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 high precision 3.5W watt application circuit utilizing Power Integrations PWR-TOP210PFI switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only. The EMI/RFI capacitors C7 & C8 are shown for reference but may not be needed to meet EMI/RFI emission specifications. If the 24V output is to be run under a no load condition a Clamp Resistor (R4) will be required to prevent possible destructive voltage runaway.

FIGURE 3: TYPICAL APPLICATION CIRCUIT



**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-858	REVISION: 06/04/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP210PFI
SCALE: NONE	SHEET: 2 OF 6