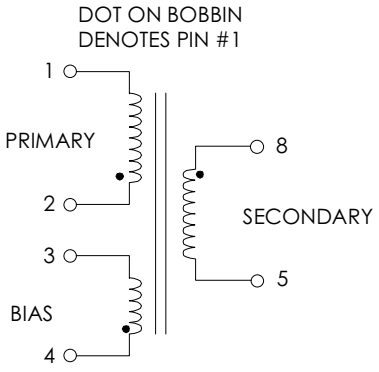
TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C

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

PARAMETER	SPEC LIMITS MIN.	TYP.	MAX.	UNITS
PRIMARY INDUCTANCE (2-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	3.40	4.00	4.60	mHY
TURN RATIO'S: SECONDARY (8-5) : PRIMARY (2-1) BIAS (4-3) : PRIMARY (2-1)	------ ------	1:11.17 1:26.80	------ ------	± 4% ± 4%
PRI LEAKAGE IND. (8-5 SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	------	83.0	100.0	µHY
HIPOT: PRIMARY TO SECONDARY BIAS TO SECONDARY	3000 3000	------ ------	------ ------	Vrms Vrms
APP CIRCUIT PARAMETERS: (1) AC LINE VOLTAGE 47/400 Hz OUTPUT VOLTAGE NOMINAL OUTPUT CURRENT CONTINUOUS (2) OUTPUT CURRENT PEAK LINE REGULATION (102 TO 318Vac) LOAD REGULATION 10-100% RIPPLE	 85 20 ------ ------ ------ ------	 ------ 15.0 ------ ------ 3.00 6.00 20.0	 265 200 280 ------ ------ ------	 Vac Vdc mA mA ±% ±% ±mV

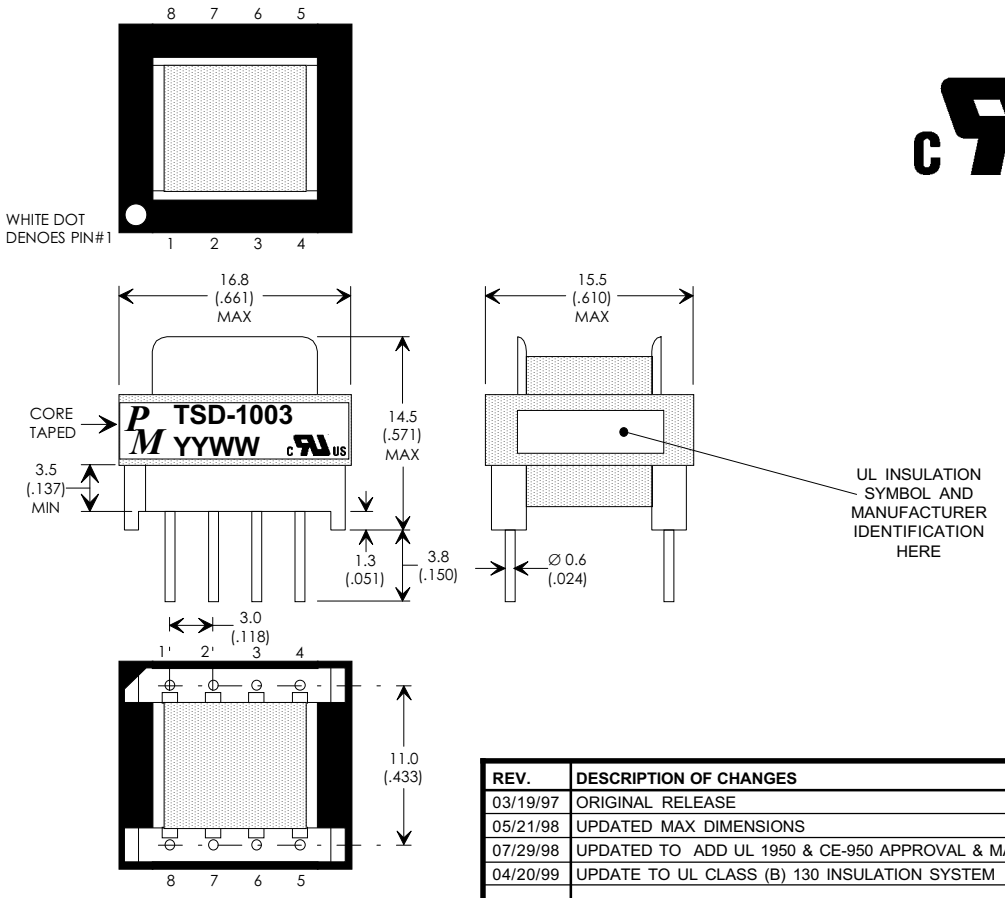
(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.
(2) WITH R3 OPTIONAL CLAMP RESISTOR IN PLACE

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
03/19/97	ORIGINAL RELEASE	TO
05/21/98	UPDATED MAX DIMENSIONS	AS
07/29/98	UPDATED TO ADD UL 1950 & CE-950 APPROVAL & MARKING	AS
04/20/99	UPDATE TO UL CLASS (B) 130 INSULATION SYSTEM	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

TRANSFORMER CONTROL DRAWING

PREMIER P/N: TSD-1003	REVISION: 04/20/99
ENGR: AL SANTOS	REF: PWR-TOP210PFI
APPD: TOM O'NEIL	SHEET: 1 OF 6

APPLICATION NOTES

Premier Magnetic's TSD-1003 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 TSD-1003 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.

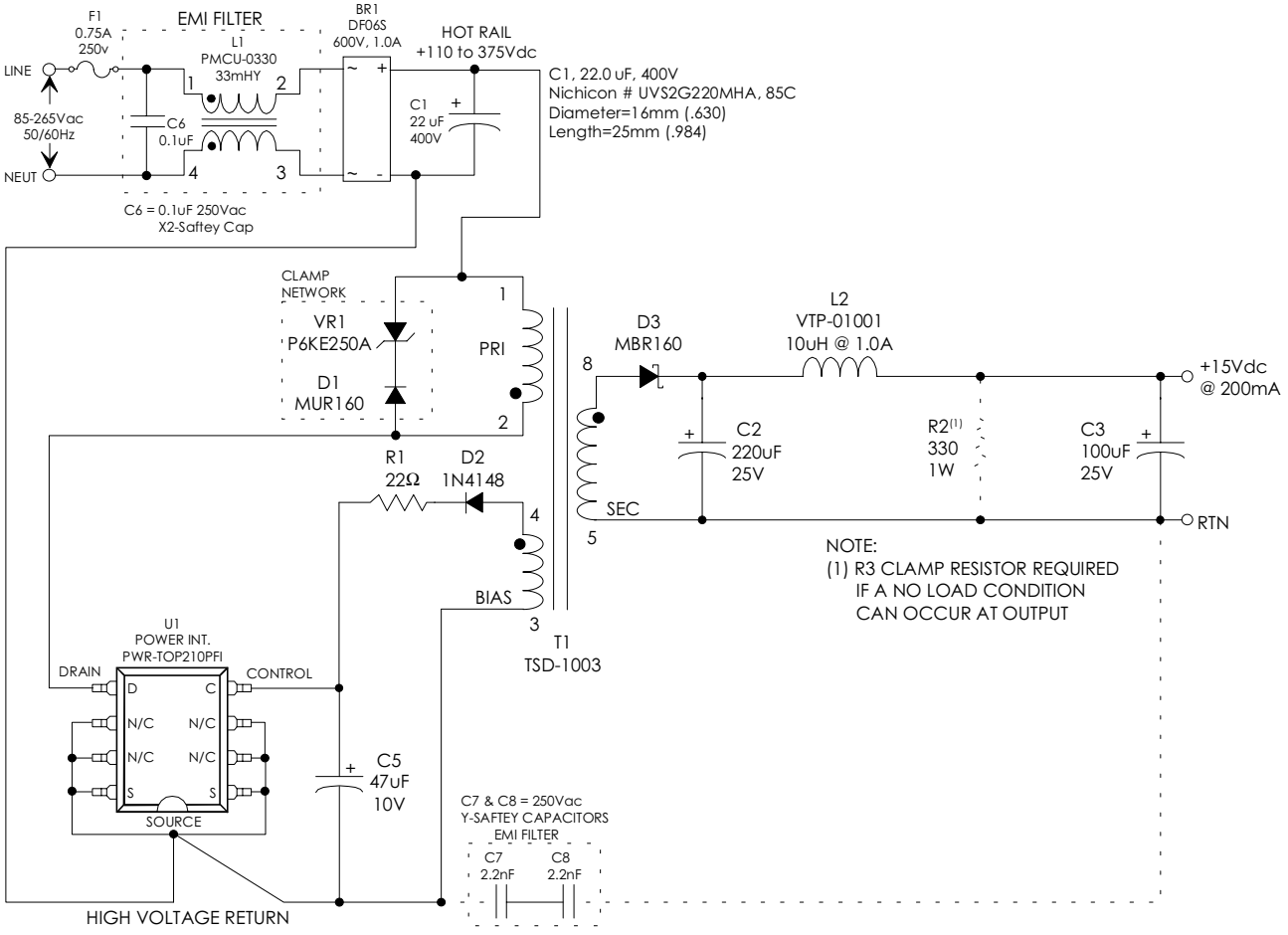
Below is a universal input, 3 watt application circuit utilizing Power Integrations PWR-TOP210 switching regulator in the flyback buck-boost configuration. This circuit provides +15Vdc at 200mA continuous and is capable of 300mA peak for short periods of time. This circuit represents the lowest cost 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. The component values listed are intended for reference purposes only. Resistor R1 may be adjusted up to 100 Ohms and down to 10 Ohms. As R1 increases in value the output voltage 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 emmision specifications. Clamp resistor R3 is recommended to stabalize the circuit during a no load condition.

FIGURE 3: TYPICAL APPLICATION CIRCUIT

PREMIER MAGNETICS PART NUMBERS:
(REQUEST DATA SHEETS BY PART#)
L1 = PMCU-0330 33mHy EMI/RFI CMC
T1 = TSD-1003 MAIN SWITCHING TRANSFORMER
L2 = VTP-01001 10uHy, 1.0Amp INDUCTOR

ALUMINUM ELECTROLYTIC FILTER CAPACITOR RATINGS:

+15V OUTPUT: C2 ≥25V, Ripple Rated ≥ 250mA @ 100KHz @ Max. Op. Temp.
PANASONIC FA SERIES: LOW IMPEDANCE LONG LIFE RADIAL SERIES
C2 = 220uF, 25V = PANASONIC ECA1EFG221
C3 = 100uF, 25V = PANASONIC ECA1EFG101



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		PREMIER P/N: TSD-1003 — REVISION: 04/20/99
		ENGR: AL SANTOS — REF: PWR-TOP210PFI
		APPD: TOM O'NEIL — SHEET: 2 OF 6