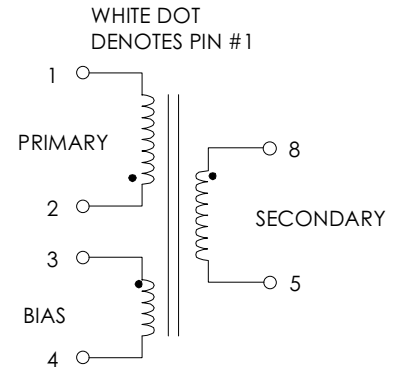


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C
 SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
 PWR-TOP200YAI IC. REFER TO APPLICATION CIRCUIT OF FIGURE 3.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (2-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	1.35	1.50	1.65	mHY
TURNRATIO'S: SECONDARY (8-5) : PRIMARY (2-1) BIAS (3-4) : PRIMARY (2-1)	-----	1:22.00 1: 7.33	-----	± 3% ± 3%
PRI LEAKAGE IND. (8-5 SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	-----	-----	80.0	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% RIPPLE	85 ----- 100.0 ----- ----- ----- ----- -----	----- 5.0 ----- ----- 0.50 1.00 50.0	265 ----- 1200 1400 ----- ----- -----	Vac Vdc mA mA ±% ±% ±mV

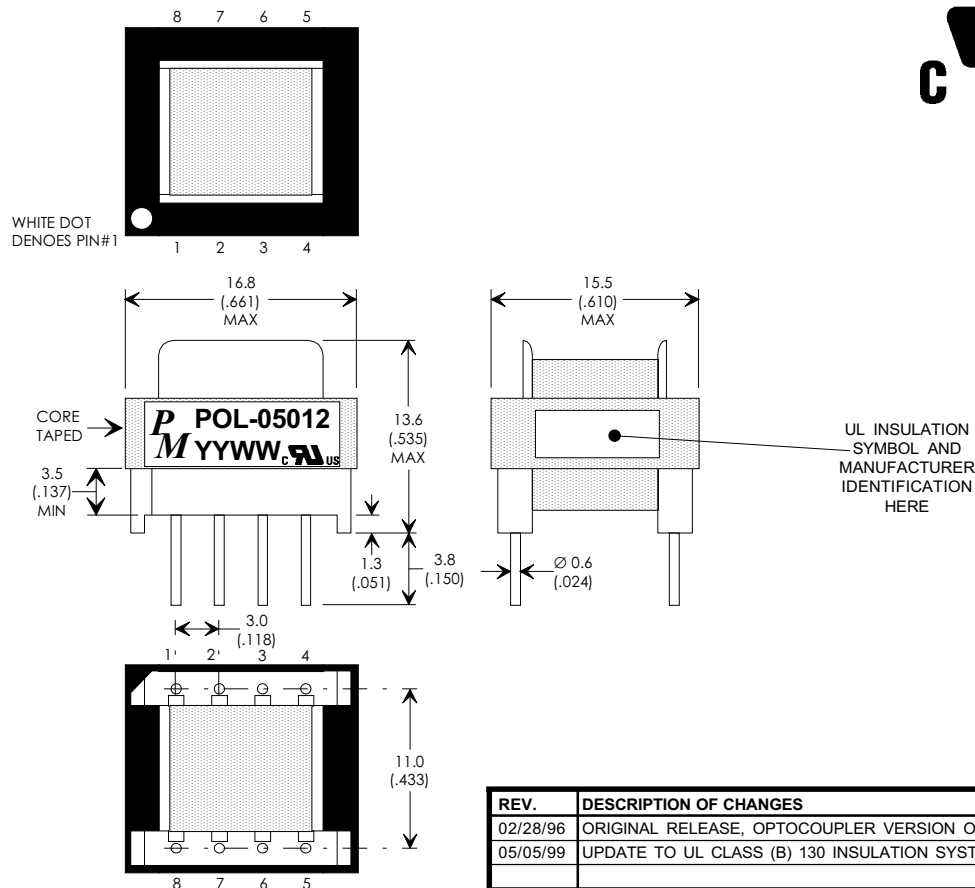
FIGURE 1: SCHEMATIC DIAGRAM



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.

(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.

FIGURE 2: PHYSICAL DIMENSIONS mm (INCHES)



EE16/EI16, 8-PIN HORIZONTAL

REV.	DESCRIPTION OF CHANGES	BY
02/28/96	ORIGINAL RELEASE, OPTOCOUPLER VERSION OF POL-05010	TO
05/05/99	UPDATE TO UL CLASS (B) 130 INSULATION SYSTEM	MD



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: POL-05012	REVISION: 05/05/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP200YAI
SCALE: NONE	SHEET: 1 OF 6

APPLICATION NOTES

Premier Magnetics' POL-05012 Switch Mode Transformer was designed for use with Power Integrations, Inc. PWR-TOP200YA1 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 POL-05012 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, 6 watt application circuit utilizing Power Integrations PWR-TOP200 switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only. This circuit provides +5Vdc at 1.20Amp continuous and is capable of >1.40Amps peak for short periods of time. The voltage feedback loop is closed to the +5V output via the opto coupler thus providing a high precision 5V output. If line and load regulation of 8-10% can be tolerated please refer to Premier's POL-05010 data sheet for a simpler circuit implementation.

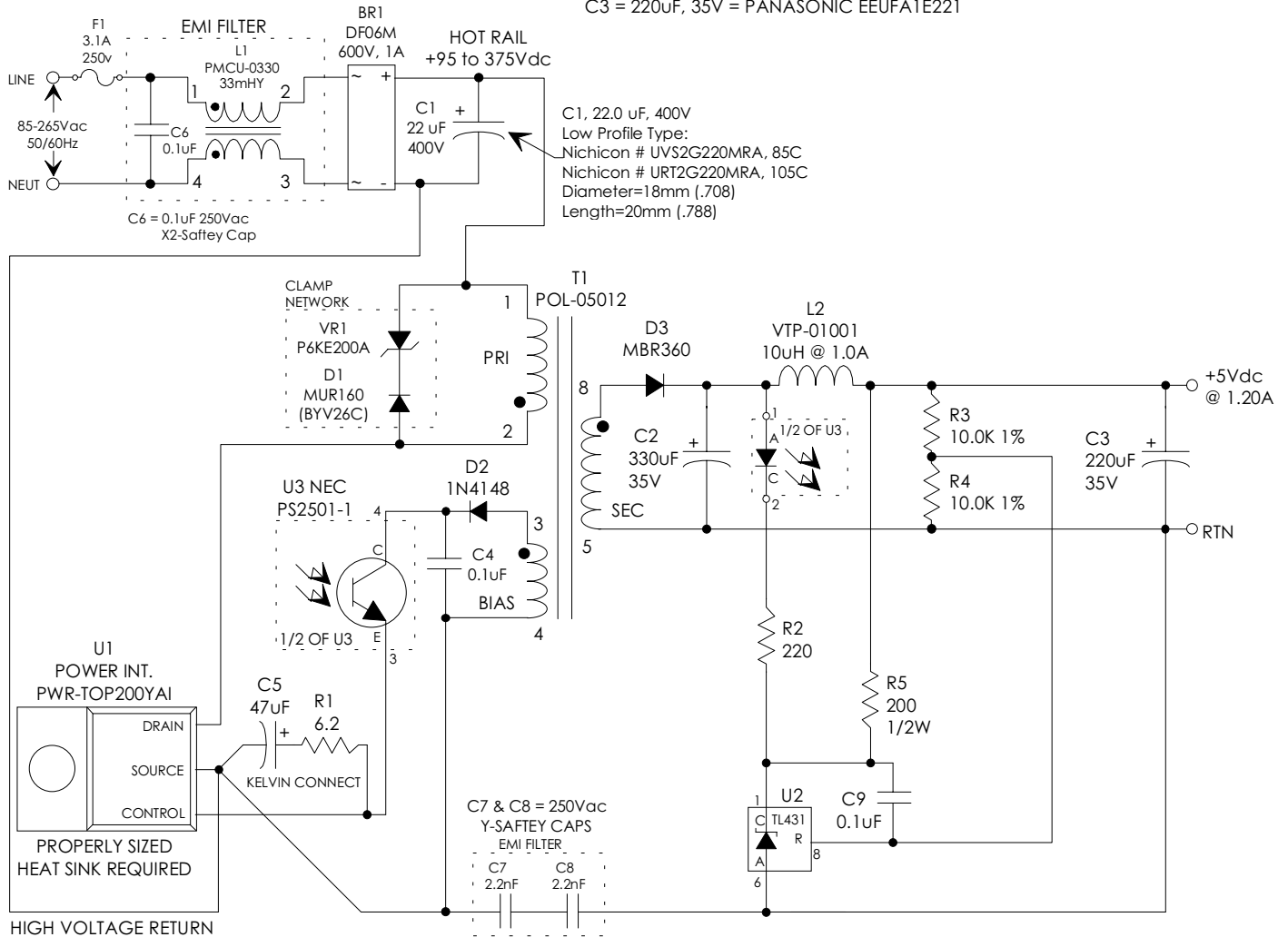
FIGURE 3: TYPICAL APPLICATION CIRCUIT

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

- L1 = PMCU-0330 33mHy EMI/RFI CMC
- T1 = POL-05012 MAIN SWITCHING TRANSFORMER
- L2 = VTP-01001 10uHy, 1.0Amp INDUCTOR

ALUMINUM ELECTROLYTIC FILTER CAPACITOR RATINGS:

- +5V OUTPUT: C2 ≥16V, Ripple Rated ≥ 1300mA @ 100KHz @ Max. Op. Temp.
- PANASONIC FA SERIES: LOW IMPEDANCE LONG LIFE RADIAL SERIES
- C2 = 330uF, 35V = PANASONIC EEUFA1E331
- C3 = 220uF, 35V = PANASONIC EEUFA1E221



**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: POL-05012	REVISION: 05/05/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP200YA1
SCALE: NONE	SHEET: 2 OF 6