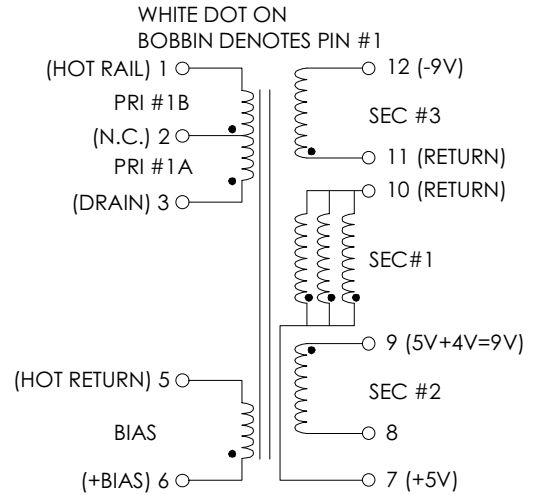


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C
 SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
 TOP225Y. REFER TO APPLICATION CIRCUIT OF FIGURE 3.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (3-1) 0.250Vrms @ 100 KHZ	729	810	891	μHY
TURN RATIO'S: SEC #1 (7-10) : PRIMARY (3-1) SEC #2 (9-8) : PRIMARY (3-1) SEC #3 (11-12) : PRIMARY (3-1) BIAS (6-5) : PRIMARY (3-1)	-----	1: 17.67 1: 26.50 1: 10.60 1: 7.57	-----	± 4% ± 4% ± 4% ± 4%
PRI LEAKAGE IND. (SEC SHORTED) 0.250Vrms @ 100 KHZ	-----	-----	24	μHY
HIPOT: PRIMARY & BIAS TO SECONDARIES PRIMARY TO BIAS	3000 600	----- -----	----- -----	Vrms Vrms
APP CIRCUIT PARAMETERS: (1) AC INPUT LINE VOLTAGE 47/400 Hz SEC #1 OUTPUT VOLTAGE SEC #1 OUTPUT CURRENT SEC #1+#2 OUTPUT VOLTAGE SEC #2 OUTPUT CURRENT SEC #3 OUTPUT VOLTAGE SEC #3 OUTPUT CURRENT	85 0.200 0.200 0.020	----- 5.0 ----- 9.0 ----- 9.0 -----	265 ----- 6.00 ----- 1.30 ----- 0.130	Vac Vdc Amps Vdc Amps Vdc Amps

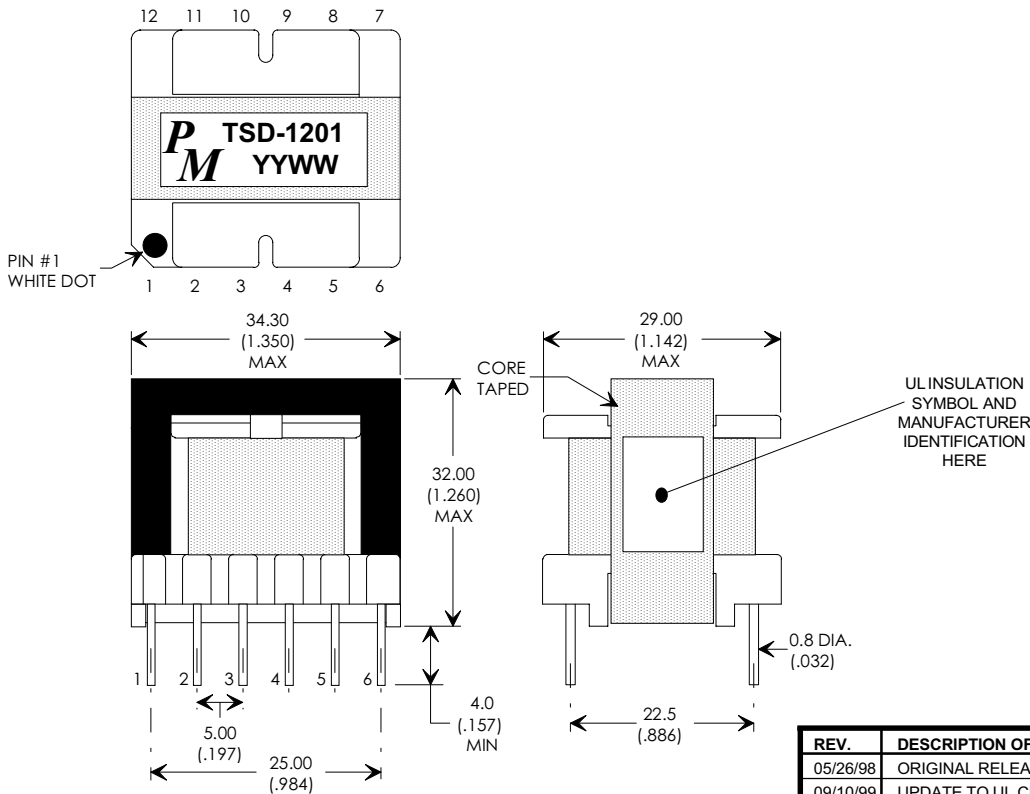
(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.

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) UL 1950 & 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)



EI33/29/13 -OR- EI33, 12-PIN VERTICAL BOBBIN



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

REV.	DESCRIPTION OF CHANGES	BY
05/26/98	ORIGINAL RELEASE, 9V VERSION OF TSD-1160	TO
09/10/99	UPDATE TO UL CLASS (B) 130 INSULATION SYSTEM	MD

FLYBACK TRANSFORMER CONTROL DRAWING

PREMIER P/N: TSD-1201	REVISION: 09/10/99
DRAWN BY: TOM O'NEIL	REF: TOP225Y
SCALE: NONE	SHEET: 1 OF 6

APPLICATION NOTES

Premier Magnetics' TSD-1201 Switch Mode Transformer was designed for use with Power Integrations TOP225Y 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-1201 transformer has been optimized to provide maximum power throughput.

The 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 43 watt application circuit utilizing Power Integrations TOP225 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 TOP225Y is required for efficient and reliable operation.

FIGURE 3: TYPICAL APPLICATION CIRCUIT

ALUMINUM ELECTROLYTIC FILTER CAPACITOR RATINGS:

C1 = 120uF 400V, PANASONIC 105°C: ECEA2GGE121 -OR- NICHICON 105°C: #UPR2G121MHH

+9V@1.3A OUTPUT: C10 ≥25V, Ripple Rated ≥ 1400mA @ 100KHz @ Max. Op. Temp.

C10 = 330uF 35V, PANASONIC 105°C: EEUFA1V391

C11 = 220uF 35V, PANASONIC 105°C: EEUFA1V220

-9V@.13A OUTPUT: C12 ≥25V, Ripple Rated ≥ 140mA @ 100KHz @ Max. Op. Temp.

C12 = 220uF 35V, PANASONIC 105°C: ECA1VFG221

+5.0V@6A OUTPUT: C6-C8 ≥16V, Ripple Rated ≥ 6870mA @ 100KHz @ Max. Op. Temp.

C6,C7,C8 = 1200uF 35V, PANASONIC 105°C: EEUFA1V122

C9 = 220uF 35V, PANASONIC 105°C: ECA1VFG221

PREMIER MAGNETICS PART NUMBERS:

(REQUEST DATA SHEETS BY PART#)

L1 = PMCU-0330 33mHy EMI/RFI CMC

L2 = VTP-01005, 8uHy @ 6A

L3 = VTP-01001 10uHy, 1.0 AMP INDUCTOR

T1 = TSD-1160 MAIN SWITCHING TRANSFORMER

NOTE: C5 & C6 Can be replaced by a single 1.0nF Y1 Safety capacitor rated for connection between primary and secondary.

MURATA: DE1110E102M

ROEDERSTEIN: WKP102MCPE

RIFA: PME294RB4100M

