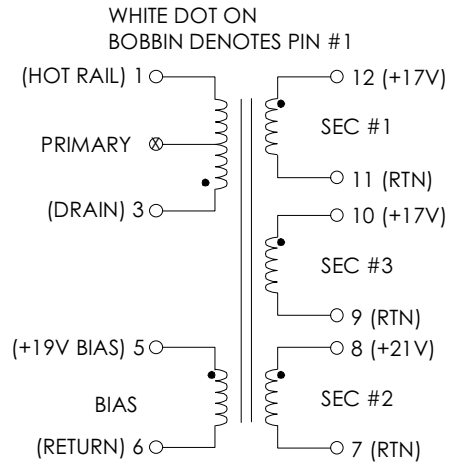


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C
 SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
 TOP227Y. REFER TO APPLICATION CIRCUIT OF FIGURE 3.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (3-1) 0.250Vrms @ 100KHz	630	700	770	μHY
TURN RATIO'S: SEC #1 (12-11) : PRIMARY (3-1) SEC #2 (8-7) : PRIMARY (3-1) SEC #3 (10-9) : PRIMARY (3-1) BIAS (5-6) : PRIMARY (3-1)	-----	1:7.000 1:5.600 1:7.000 1:6.222	-----	± 4% ± 4% ± 4% ± 4%
PRIMARY LEAKAGE INDUCTANCE: 0.250Vrms @ 100KHz, SEC'S SHORTED	-----	-----	TBD	μHY
HIPOT: PRIMARY & BIAS TO SECONDARIES PRIMARY TO BIAS BETWEEN SEC, SEC TO CORE	3000 1500 1500	----- ----- -----	----- ----- -----	Vrms Vrms Vrms
GENERAL CIRCUIT PARAMETERS: ⁽¹⁾⁽³⁾ AC LINE VOLTAGE 47/400 Hz OUTPUT VOLTAGE-SEC #1 ⁽²⁾ OUTPUT CURRENT-SEC #1 OUTPUT VOLTAGE-SEC #2 OUTPUT CURRENT-SEC #2 OUTPUT VOLTAGE-SEC #3 OUTPUT CURRENT-SEC #3	85 ----- 0.50 ----- 0.10 ----- 0.50	----- +17.0 ----- +21.0 ----- +17.0 -----	265 ----- 0.50 ----- 2.20 ----- 2.20	Vac Vdc Amps Vdc Amps Vdc Amps

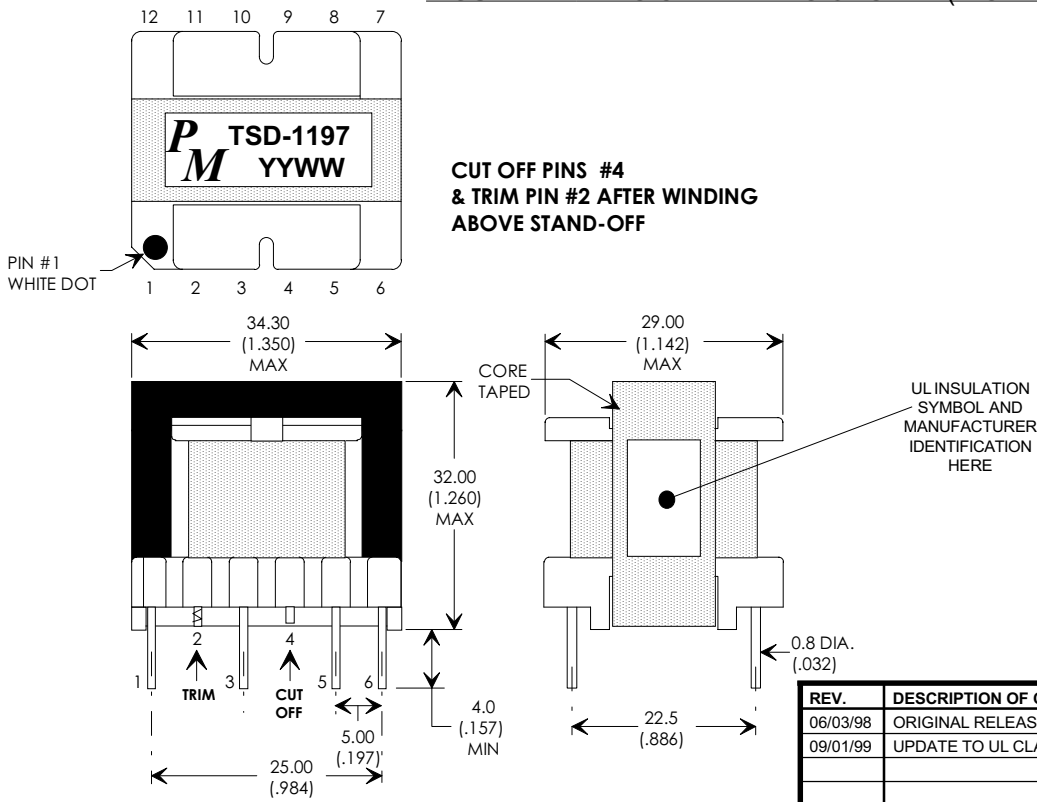
- (1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.
 (2) SECONDARY #1 IS THE MAIN FEEDBACK CONTROL WINDING.
 (3) BIAS IS SET TO 19V AND CAPABLE OF .20A OF AUXILIARY POWER.

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 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
06/03/98	ORIGINAL RELEASE	TO
09/01/99	UPDATE TO UL CLASS (B) 130 INSULATION SYSTEM	MD

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

FLYBACK TRANSFORMER CONTROL DRAWING

PREMIER P/N: TSD-1197	REVISION: 09/01/99
DRAWN BY: TOM O'NEIL	REF: TOP227
SCALE: NONE	SHEET: 1 OF 6

APPLICATION NOTES

Premier Magnetics TSD-1197 Switch Mode Transformer was designed for use with Power Integrations, Inc. TOP227Y three terminal off-line PWM switching regulator in the Flyback Buck-Boost circuit configuration. 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 TOPXXX are critical to the performance of the circuit. They define the overall efficiency, output power and overall physical size.

Below is a universal (85Vac to 265Vac) input high precision 80 watt application circuit utilizing Power Integrations TOP227 switching regulator. This circuit provides three outputs. The "MAIN" output of secondary #1 is optically fed back to the TOP227 controller to close the voltage feedback loop. Secondary #2 & #3 are the slave outputs. The Bias is set to 19V and capable of .20A of Auxiliary power. The component values listed are intended for reference purposes only.

FIGURE 3: TYPICAL APPLICATION CIRCUIT

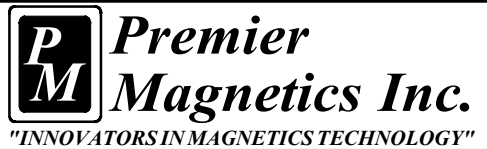
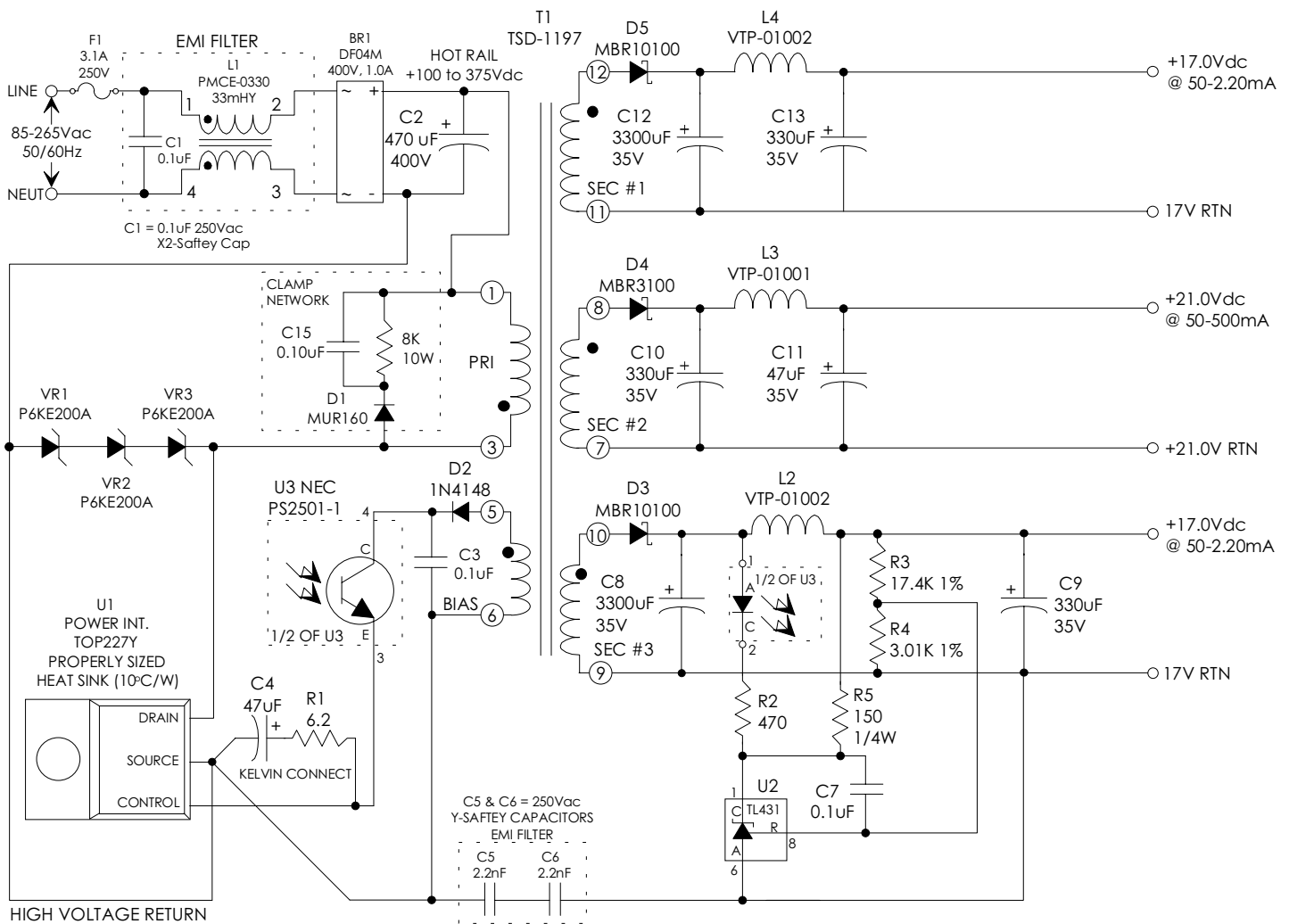
ALUMINUM ELECTROLYTIC FILTER CAPACITOR RATINGS:

C1 = 470uF 400V, PANASONIC 105°C: ECEA2GGE471 -OR- NICHICON 105°C: #UPR2G471MHH
 17V OUTPUTS: C8 & C12 ≥35V, Ripple Rated ≥ 2300mA @ 100KHz @ Max. Op. Temp.
 C8, C12 = 3300uF 35V, PANASONIC 105°C: ECA1VFG332

+21.0V OUTPUT: C10 ≥35V, Ripple Rated ≥ 560mA @ 100KHz @ Max. Op. Temp.
 C10, C9, C13 = 330uF 35V, PANASONIC 105°C: ECA1VFG331
 C11 = 47uF 35V, PANASONIC 105°C: ECA1VFG470

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

L1 = PMCE-0330 33mHy EMI/RFI CMC
 T1 = TSD-1197 MAIN SWITCHING TRANSFORMER
 L1 = VTP-01001 10uHy, 1.0 AMP INDUCTOR
 L2 & L4 = VTP-01002 10uHy, 2.0 AMP INDUCTOR



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

FLYBACK TRANSFORMER CONTROL DRAWING	
PREMIER P/N: TSD-1197	REVISION: 09/01/99
DRAWN BY: TOM O'NEIL	REF: TOP227
SCALE: NONE	SHEET: 2 OF 6