

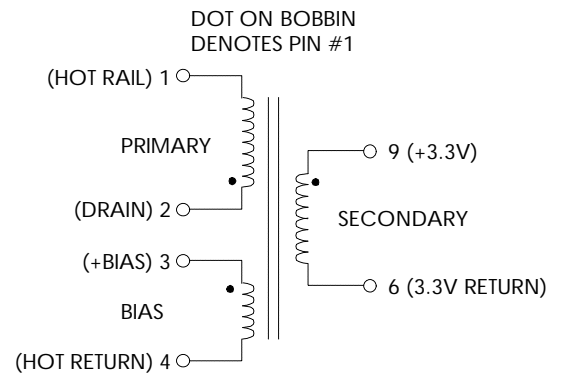
TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C

SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
TOP-232 REFER TO APPLICATION CIRCUIT OF FIGURE 3.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (2-1) FREQ. = 100 KHZ @ 0.250Vrms	3000	3300	3600	μHY
TURNRATIO'S: SECONDARY (9-6) : PRIMARY (2-1) BIAS (3-4) : PRIMARY (2-1)	----- -----	1: 24 1: 6	----- -----	± 4% ± 4%
PRI LEAKAGE IND. (9-6 SHORTED) FREQ. = 100 KHZ @ 0.250Vrms	-----	-----	TBD	μHY
HIPOT: PRIMARY TO SECONDARY BIAS TO SECONDARY	3000 3000	----- -----	----- -----	Vrms Vrms
APP CIRCUIT PARAMETERS:(1) INPUT OUTPUT VOLTAGE OUTPUT CURRENT CONTINUOUS OUTPUT CURRENT PEAK BIAS OUTPUT VOLTAGE BIAS LINE REGULATION (85 TO 265Vac) LOAD REGULATION 10-100% RIPPLE	85 ----- 20 ----- ----- 10 ----- ----- ----- -----	----- 3.3 ----- ----- 15 ----- 0.30 0.20 50.0	265 ----- 600 700 20 20 ----- ----- -----	Vac Vdc mA mA Vdc mA ±% ±% ±mV

(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.

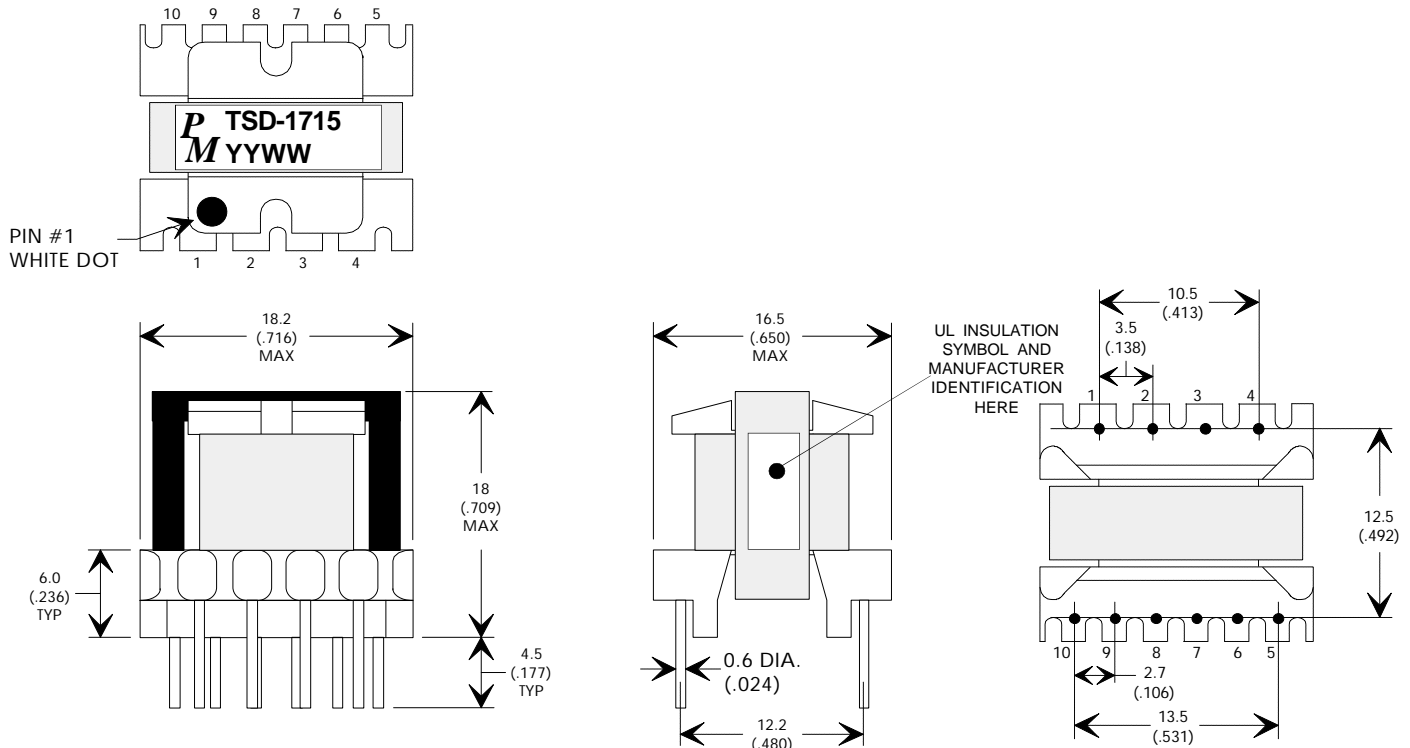
FIGURE 1: SCHEMATIC DIAGRAM



NOTE1:

- A) ALL MATERIALS MEET "UL", "CSA" & "IEC" REQUIREMENTS
- B) ALL MATERIAL RATED 130 °C OR BETTER
- C) TRIPLE BASIC INSULATED SECONDARY.
- D) VARNISH FINISHED ASSEMBLY.

FIGURE 2: PHYSICAL DIMENSIONS mm (INCHES)



REV.	DESCRIPTION OF CHANGES	BY
11/29/01	ORIGINAL RELEASE	LL



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-1715	REVISION: 11/29/01
DRAWN BY: PETER PHAM	REF: TOP232
SCALE: NONE	SHEET: 1 OF 4

APPLICATION NOTES

Premier Magnetics' TSD-1715 Switch Mode Transformer was designed for use with Power Integrations, Inc. TOP232 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-1715 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 2 watt application circuit utilizing Power Integrations TOP232 switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only.

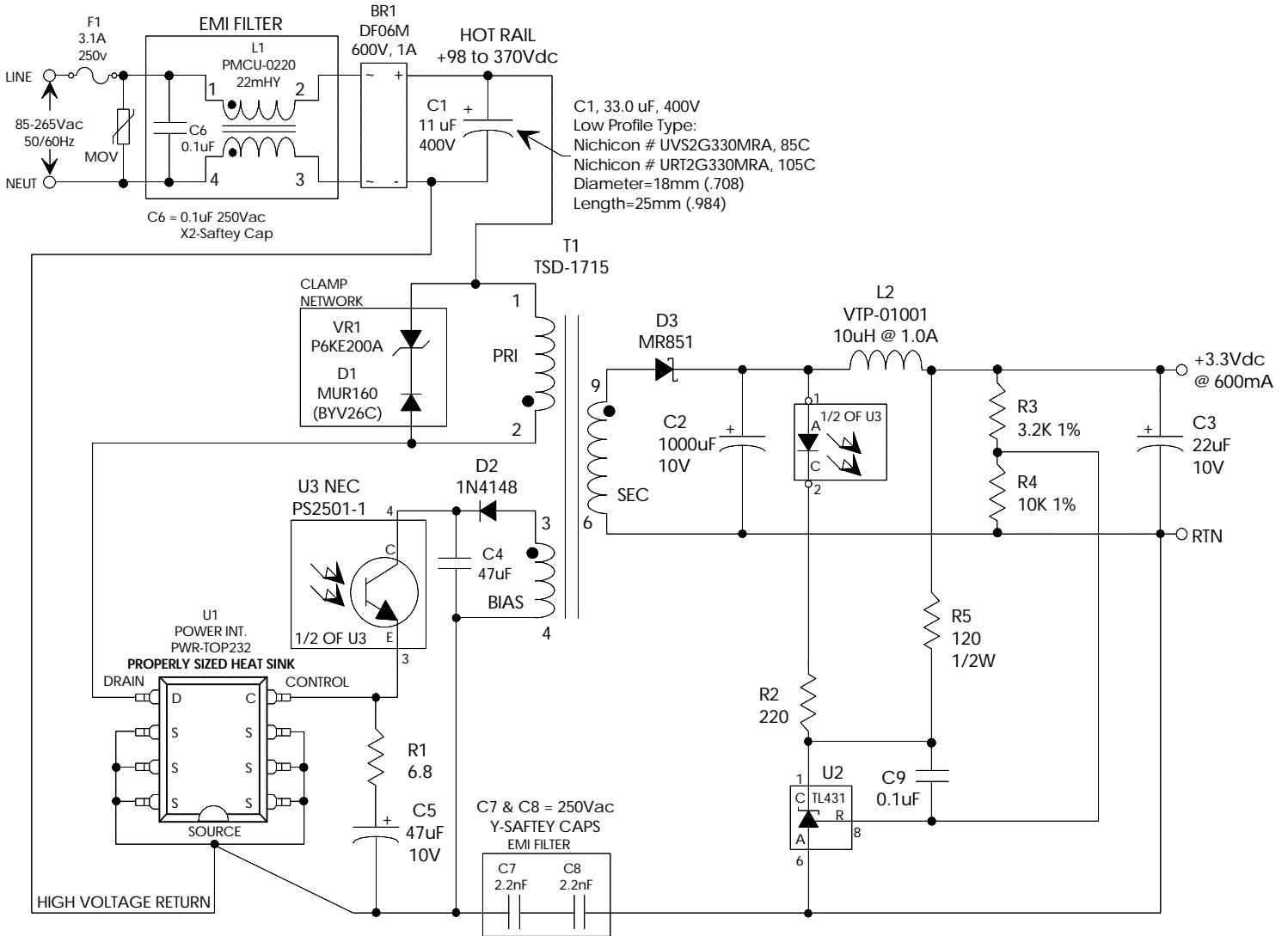
FIGURE 3: TYPICAL APPLICATION CIRCUIT

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

- L1 = PMCU-0220 22mHy EMI/RFI CMC
- T1 = TSD-1715 MAIN SWITCHING TRANSFORMER
- L2 = VTP-01001 10uHy, 1.0Amp INDUCTOR

ALUMINUM ELECTROLYTIC FILTER CAPACITOR RATINGS:

- C1 : $\geq 400V$, Ripple Rated $\geq 125mA$ @ 120Hz @ Max. Operating Temp.
(Nichicon P/N URT2G330MRA, 105C)
- C2 : $\geq 10V$, Ripple Rated $\geq 720mA$ @ 100KHz @ Max. Op. Temp.
(Panasonic P/N ECA1AFG102, 105 C)
- C3 : $\geq 10V$, (Panasonic P/N ECA1EFG470, 105C)



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN MM
DIMENSIONAL TOLERANCES ARE:
DECIMALS ANGLES
.X $\pm .25$ $\pm 0^\circ 30'$
.XX $\pm .15$
DO NOT SCALE DRAWING

FLYBACK TRANSFORMER CONTROL DRAWING	
PREMIER P/N: TSD-1715	REVISION: 11/29/01
DRAWN BY: PETER PHAM	REF: TOP232
SCALE: NONE	SHEET: 2 OF 4