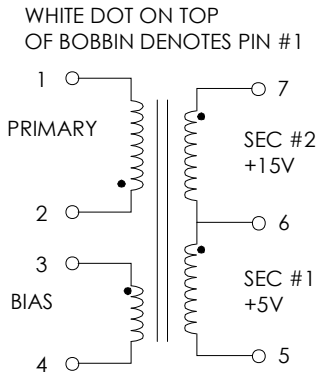
TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C

SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS PWR-TOP201YAI. REFER TO APPLICATION CIRCUIT OF FIGURE 3.

PARAMETER	SPEC LIMITS MIN.	TYP.	MAX.	UNITS
PRIMARY INDUCTANCE (2-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	1251	1390	1529	µHY
TURN RATIO'S: FULL SEC (7-5) : PRIMARY (2-1) SEC1 (6-5) : PRIMARY (2-1) BIAS (3-4) : PRIMARY (2-1)	 -------- -------- --------	 1:6.917 1:20.75 1:9.222	 -------- -------- --------	 ±4% ±4% ±4%
PRI LEAKAGE IND. (7-5 SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	--------	--------	30.0	µHY
HIPOT: PRIMARY TO SECONDARY BIAS TO SECONDARY	 3000 3000	 -------- --------	 -------- --------	 Vrms Vrms
APP CIRCUIT PARAMETERS: (1) DC INPUT VOLTAGE OUTPUT VOLTAGE CONTINUOUS OUTPUT POWER LINE REGULATION (85 TO 265Vac) LOAD REGULATION 10-100% RIPPLE	 324 -------- -------- -------- --------	 -------- 15 & 5 -------- 0.20 0.20 100.0	 396 20.0 -------- -------- --------	 Vdc Vdc Watts ±% ±% ±mV

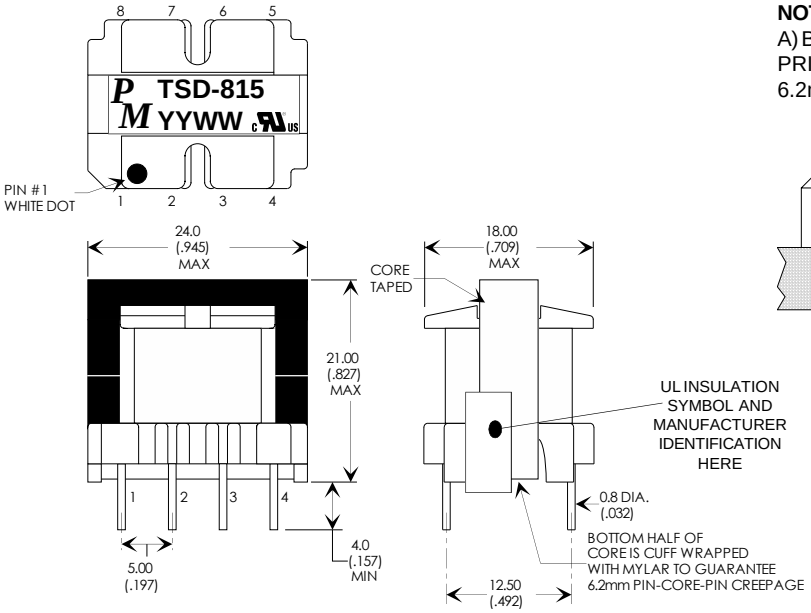
(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.

FIGURE 1: SCHEMATIC DIAGRAM

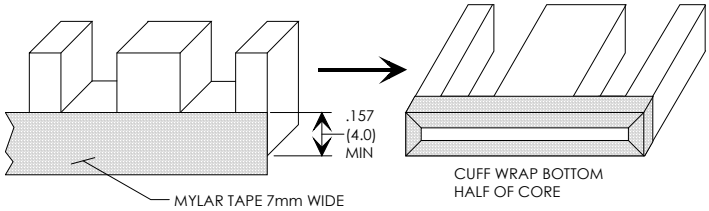


NOTE1:
REINFORCED INSULATION SYSTEM, UL1950, IEC950, CSA-950:
A) ALL MATERIALS MEET "UL", "CSA" & "IEC" REQUIREMENTS
B) TRIPLE BASIC INSULATED SECONDARY.
C) DESIGNED TO MEET ≥6.2mm CREEPAGE REQUIREMENTS.
D) CORE CENTER POST MUST BE GROUND GAPPED TO MEET CONDUCTED MODE EMI NOISE IN ACCORDANCE WITH FCC/VDE CLASS B REQUIREMENT.
E) VARNISH FINISHED ASSEMBLY.
F) UL1950 & CSA-950 CERTIFIED: FILE #E162344.
G) 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)



NOTE2:
A) BOTTOM HALF OF CORE IS CUFF WRAPPED PRIOR TO ASSEMBLY. THIS GAURANTEES 6.2mm CREEPAGE PIN-CORE-PIN



RoHS

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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-815	REVISION: 08/26/19
DRAWN BY: TOM O'NEIL	REF: PWR-TOP201YAI
SCALE: NONE	SHEET: 1 OF 2

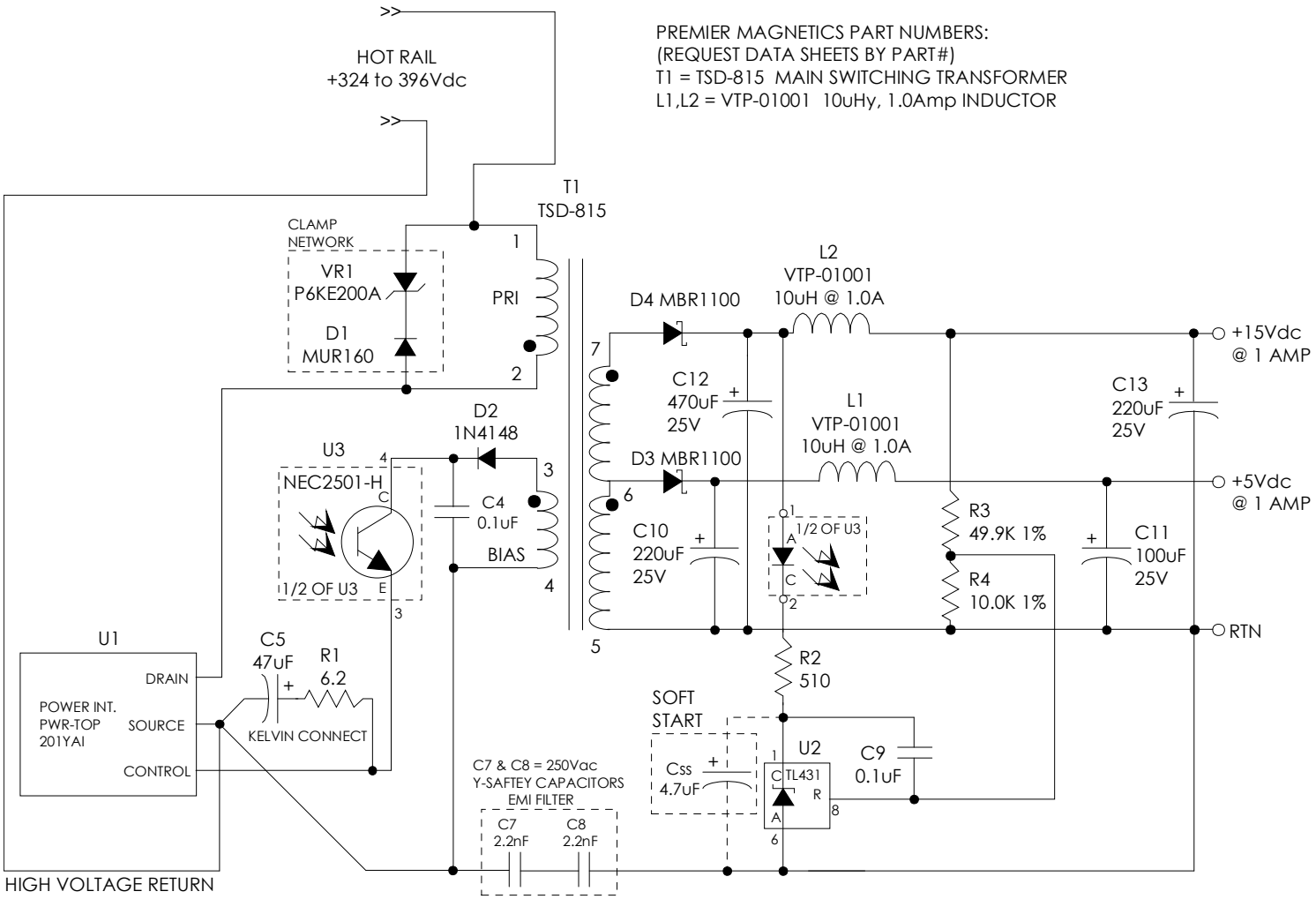
APPLICATION NOTES

Premier Magnetic's TSD-815 Switch Mode Transformer was designed for use with Power Integrations, Inc. PWR-TOP201YAI 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-815 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 high precision 20 watt application circuit utilizing Power Integrations PWR-TOP201 switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only. The soft start capacitor Css is optional depending on the specific application. Simpler topology is possible depending on the line/load regulation required.

FIGURE 3: TYPICAL APPLICATION CIRCUIT



premier magnetics 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-815 — REVISION: 08/26/19
		DRAWN BY: TOM O'NEIL — REF: PWR-TOP201YAI
		SCALE: NONE — SHEET: 2 OF 2