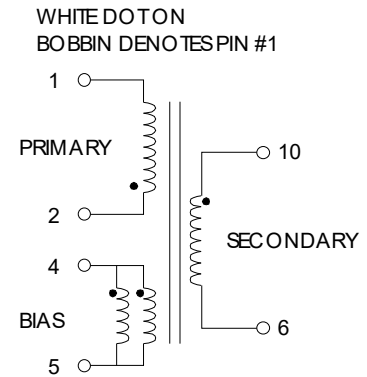


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C
 SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
 PWR-TOP226Y. REFER TO APPLICATION CIRCUIT OF FIGURE 3.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (2-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	565	628	691	μHY
TURN RATIO'S: SEC (10-6) : PRIMARY (2-1) BIAS (4-5) : PRIMARY (2-1)	-----	1:5.00 1:9.00	-----	± 4% ± 4%
PRI LEAKAGE IND. (SEC SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	-----	12.5	15.0	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% OUTPUT SWITCH FREQ. RIPPLE 115V TEMP RISE @ FULL LOAD	85 ----- 0.0 ----- ----- ----- ----- ----- ----- -----	----- 24 (22) ----- ----- 0.20 0.30 50.0 15.0	265 ----- 1.3 (1.5) 1.5 (1.7) ----- ----- ----- ----- -----	Vac Vdc Amps Amps ±% ±% ±mV °C

FIGURE 1: SCHEMATIC DIAGRAM

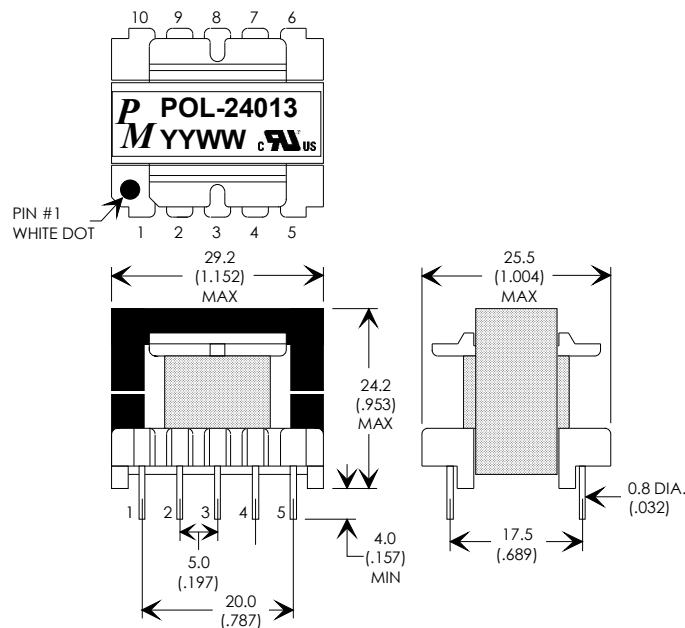


NOTE1:
REINFORCED INSULATION SYSTEM, UL1950, IEC950, CSA-950:
 A) ALL MATERIALS MEET "UL", "CSA" & "IEC" REQUIREMENTS
 B) TRIPLE BASIC INSULATED SECONDARY.
 C) DESIGNED TO MEET >6.2mm CREEPAGE REQUIREMENTS.
 D) VARNISH FINISHED ASSEMBLY.
 E) UL1950 & CSA-950 CERTIFIED: FILE #E162344.
 F) UL CLASS (B) 130 INSULATION SYSTEM PM130-## UL FILE #E177139).

(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.
 VALUES IN PARANTHESIS ARE FOR THE 22V @ 1.5A CIRCUIT VARIATION.



FIGURE 2: PHYSICAL DIMENSIONS mm (INCHES)



RoHS



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-24013	REVISION: 05/07/20
DRAWN BY: TOM O'NEIL	REF: TOP226Y
SCALE: NONE	SHEET: 1 OF 2

APPLICATION NOTES

Premier Magnetics' POL-24013 Switch Mode Transformer was designed for use with Power Integrations, Inc. TOP226Y 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-24013 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 33 watt application circuit utilizing Power Integrations PWR-TOP204 switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only. A variation table of resistor values for R3 & R4 is given allowing adjustment of the output voltage & current. Soft start capacitor C_{ss} is optional depending on the specific application.

FIGURE 3: TYPICAL APPLICATION CIRCUIT

PREMIER MAGNETICS PART NUMBERS:

(REQUEST DATA SHEETS BY PART#)

L1 = PMCU-0330 33mHy EMI/RFI CMC

T1 = POL-24013 MAIN SWITCHING TRANSFORMER

L2 = VTP-01002 10uHy, 2.0Amp INDUCTOR

ALUMINUM ELECTROLYTIC FILTER CAPACITOR RATINGS:

+24V OUTPUT: C2 ≥35V, Ripple Rated ≥ 1400mA @ 100KHz @ Max. Op. Temp.

PANASONIC FA SERIES: LOW IMPEDANCE RADIAL SERIES

C2 = 470uF, 35V = PANASONIC EEUFA1V471

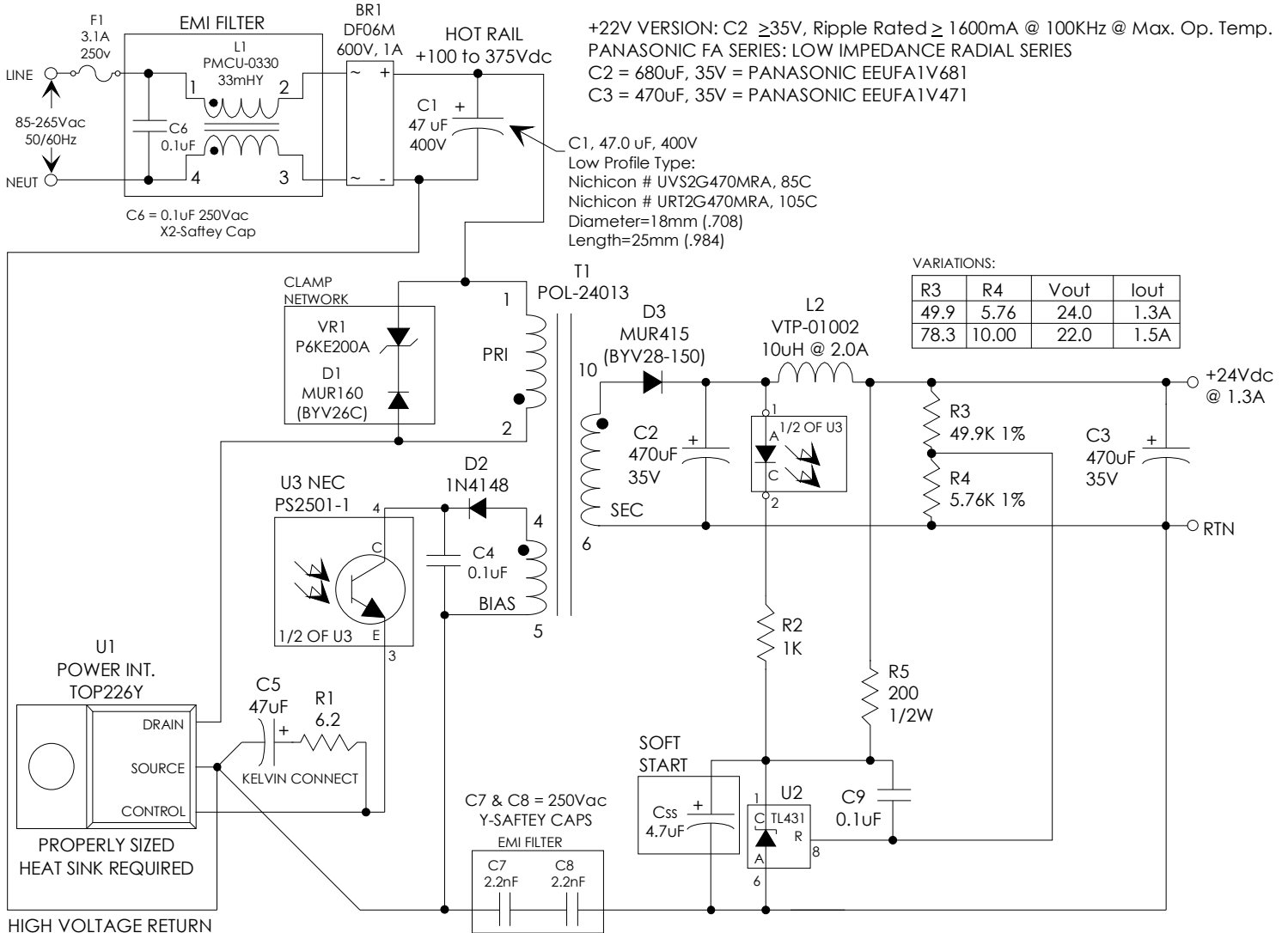
C3 = 470uF, 35V = PANASONIC EEUFA1V471

+22V VERSION: C2 ≥35V, Ripple Rated ≥ 1600mA @ 100KHz @ Max. Op. Temp.

PANASONIC FA SERIES: LOW IMPEDANCE RADIAL SERIES

C2 = 680uF, 35V = PANASONIC EEUFA1V681

C3 = 470uF, 35V = PANASONIC EEUFA1V471



VARIATIONS:

R3	R4	V _{out}	I _{out}
49.9	5.76	24.0	1.3A
78.3	10.00	22.0	1.5A



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-24013	REVISION: 05/07/20
DRAWN BY: TOM O'NEIL	REF: TOP226Y
SCALE: NONE	SHEET: 2 OF 2