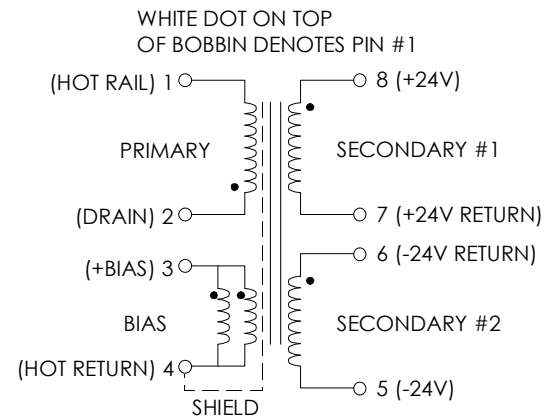


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C
 SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
 TOP224P. REFER TO APPLICATION CIRCUIT OF FIGURE 3.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (2-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	585	650	715	μHY
TURN RATIO'S: BIAS (3-4) : PRIMARY (2-1) SEC #1 (8-7) : PRIMARY (2-1) SEC #2 (6-5) : PRIMARY (2-1)	-----	1: 8.375	-----	± 4%
	-----	1: 4.250	-----	± 4%
	-----	1: 4.250	-----	± 4%
PRI LEAKAGE IND. (SEC SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	-----	-----	44	μHY
HIPOT: PRIMARY & BIAS TO SECONDARIES	3000	-----	-----	Vrms
APP CIRCUIT PARAMETERS: (1) AC LINE VOLTAGE 47/400 Hz	85	-----	265	Vac
SEC #1 OUTPUT VOLTAGE		+24.0		Vdc
OUTPUT CURRENT CONTINUOUS	50	-----	+400	mA
SEC #1 OUTPUT VOLTAGE		-24.0		Vdc
OUTPUT CURRENT CONTINUOUS	50	-----	-400	mA
PEAK CURRENT OUT, EACH SEC.	-----	-----	+450	mAmps
LINE REGULATION (85 TO 265Vac)	-----	0.20	-----	±%
LOAD REGULATION 10-100%	-----	0.20	-----	±%
RIPPLE	-----	50.0	-----	±mV

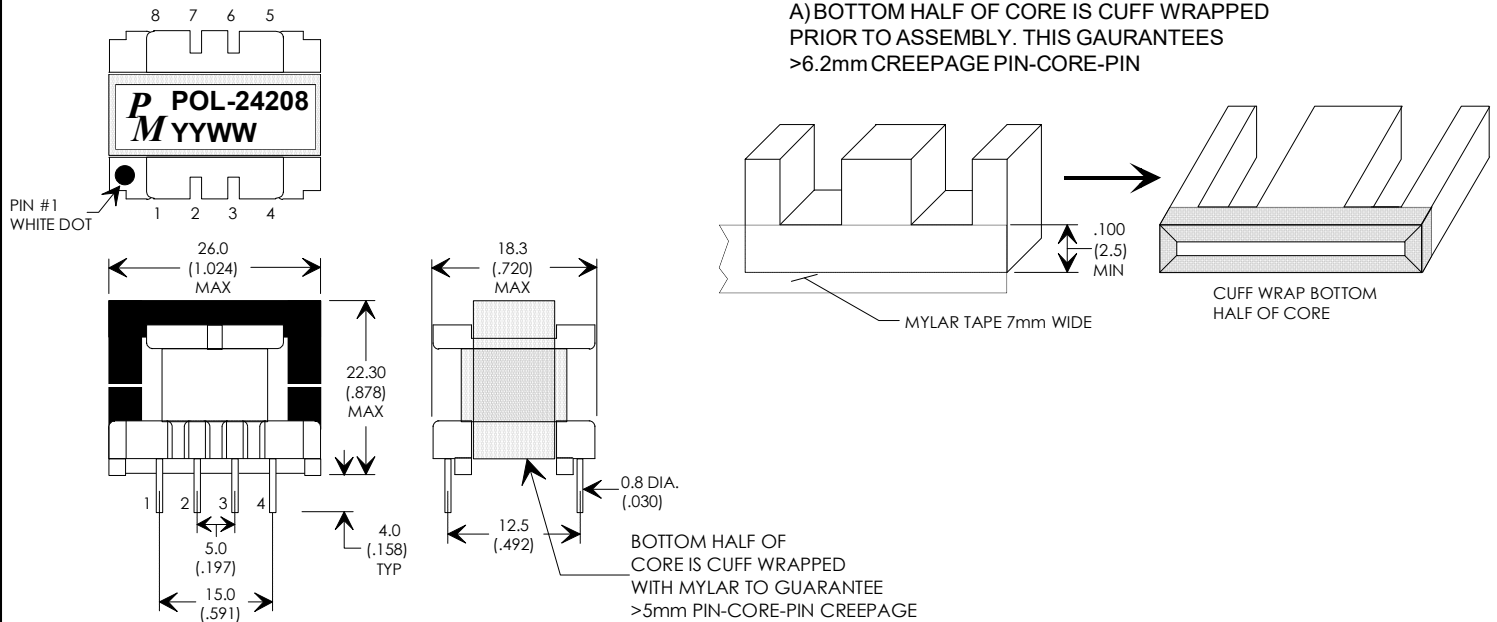
FIGURE 1: SCHEMATIC DIAGRAM



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 RD5 APPLICATION CIRCUIT OF FIGURE 3.

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-24208	REVISION: 06/29/20
ENGR: PETER PHAM	REF: TOP224P
SCALE: NONE	SHEET: 1 OF 2

APPLICATION NOTES

Premier Magnetics' POL-24208 Switch Mode Transformer was designed for use with Power Integrations, Inc. PWR-TOP224P 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-24208 transformer has been optimized to provide maximum power throughput.

The TOPSwitch-II 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 input high precision 20 watt application circuit utilizing Power Integrations TOP224 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-0330 33mHy EMI/RFI CMC

T1 = POL-24208 MAIN SWITCHING TRANSFORMER

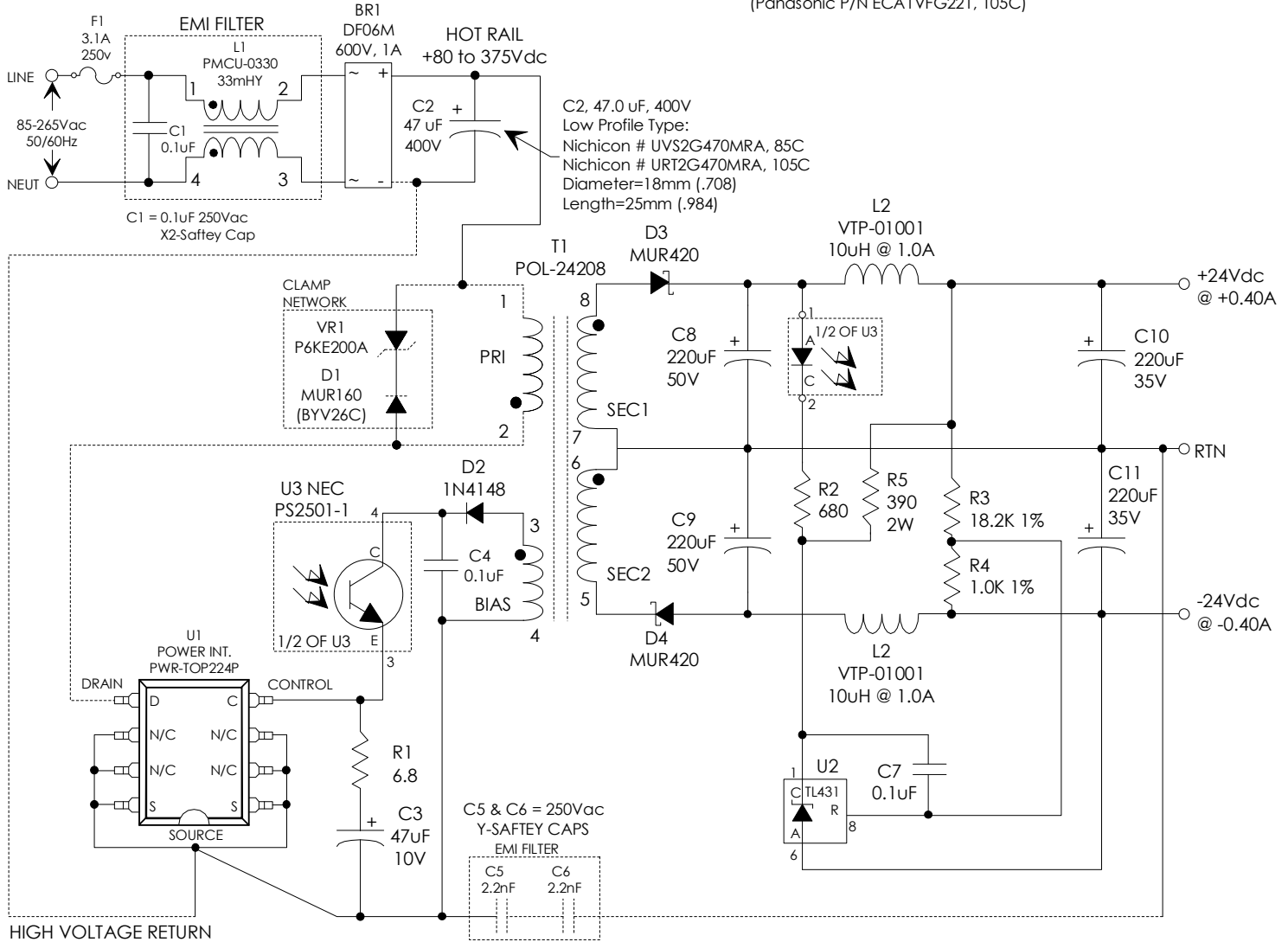
L2 = VTP-01001 10uHy, 1.0Amp INDUCTOR

ALUMINUM ELECTROLYTIC FILTER CAPACITOR RATINGS:

C2 : $\geq 400V$, Ripple Rated $\geq 233mA$ @ 120Hz @ Max. Operating Temp.
(Nichicon P/N URTSG470MRA, 105C)

C8, C9 : $\geq 50V$, Ripple Rated $\geq 550mA$ @ 100KHz @ Max. Op. Temp.
(Panasonic P/N ECA1HFG221, 105C)

C10, C11 : $\geq 25V$ GOOD QUALITY LOW ESR TYPE
(Panasonic P/N ECA1VFG221, 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

TRANSFORMER CONTROL DRAWING	
PREMIER P/N: POL-24208	REVISION: 06/29/20
ENGR: PETER PHAM	REF: TOP224P
SCALE: NONE	SHEET: 2 OF 2