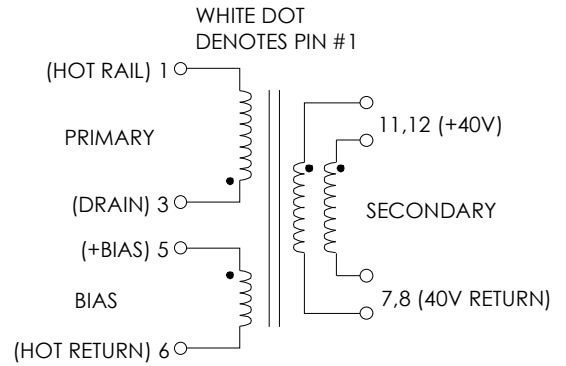


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C
 SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
 PWR-TOP227Y. REFER TO APPLICATION CIRCUITS OF FIGURE 3.

| PARAMETER | SPEC LIMITS | | | UNITS |
|--|---|---|---|---|
| | MIN. | TYP. | MAX. | |
| PRIMARY INDUCTANCE (3-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ | 450 | 500 | 550 | μHY |
| TURN RATIO'S: SEC (11,12-7,8) : PRIMARY (3-1) BIAS (5-6) : PRIMARY (3-1) | ----- | 1: 3.14 1:11.00 | ----- | ± 4% ± 4% |
| PRI LEAKAGE IND. (SEC SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ | ----- | ----- | 30.0 | μHY |
| HIPOT: PRIMARY TO SECONDARY BIAS TO SECONDARY | 3000 3000 | ----- ----- | ----- ----- | Vrms Vrms |
| FIGURE 3 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% RIPPLE | 85 ----- 0.10 ----- ----- ----- ----- | ----- 40.0 ----- ----- 0.20 0.20 50.0 | 265 ----- 2.00 2.25 ----- ----- ----- | Vac Vdc Amps Amps ±% ±% ±mV |

(1) REFER TO APPLICATION CIRCUIT OF FIGURE 3.

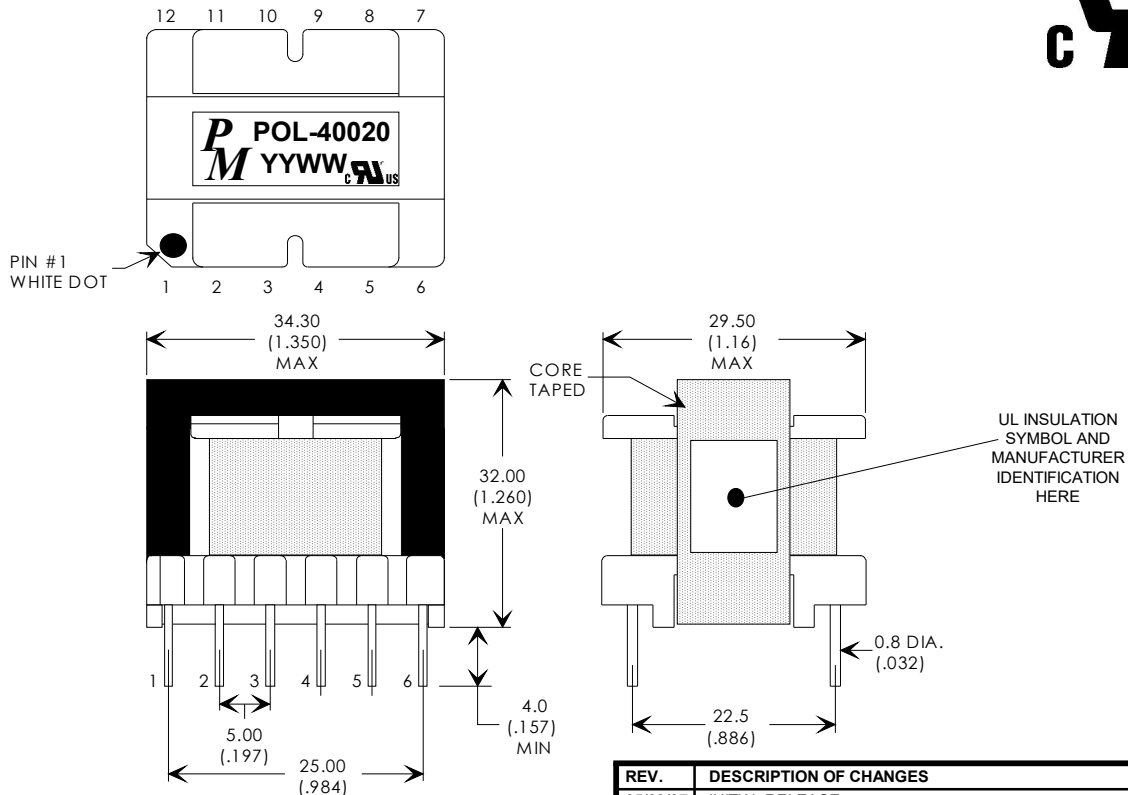
FIGURE 1: SCHEMATIC DIAGRAM



SECONDARY PINS #12 & 11, #8 & 7 MUST BE RESPECTIVELY CONNECTED TOGETHER FOR PROPER OPERATION. I.E. CONNECTED AS ONE PARALLEL WINDING.

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-R1, PM130-H1, PM130-H1A (UL FILE #E177139) OR ANY UL AUTHORIZED CLASS (B) INSULATION SYSTEM.

FIGURE 2: PHYSICAL DIMENSIONS mm (INCHES)



RoHS

| REV. | DESCRIPTION OF CHANGES | BY |
|----------|--|----|
| 05/09/97 | INITIAL RELEASE | AS |
| 06/10/98 | UPDATED RELEASE | AS |
| 05/11/99 | UPDATE TO UL CLASS (B) 130 INSULATION SYSTEM | MD |



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-40020 | REVISION: 05/11/99 |
| ENGR: AL SANTOS | REF: PWR-TOP227Y |
| APPD: TOM O'NEIL | SHEET: 1 OF 2 |

APPLICATION NOTES

Premier Magnetics POL-40020 Switch Mode Transformer was designed for use with Power Integrations, Inc. PWR-TOP204YA 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-40020 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 80 watt application circuit utilizing Power Integrations PWR-TOP227 switching regulator in the flyback buck-boost configuration. The component values listed are intended for reference purposes only. Properly sized heat sinks for the TOP227Y & D3 are required for efficient and reliable operation.

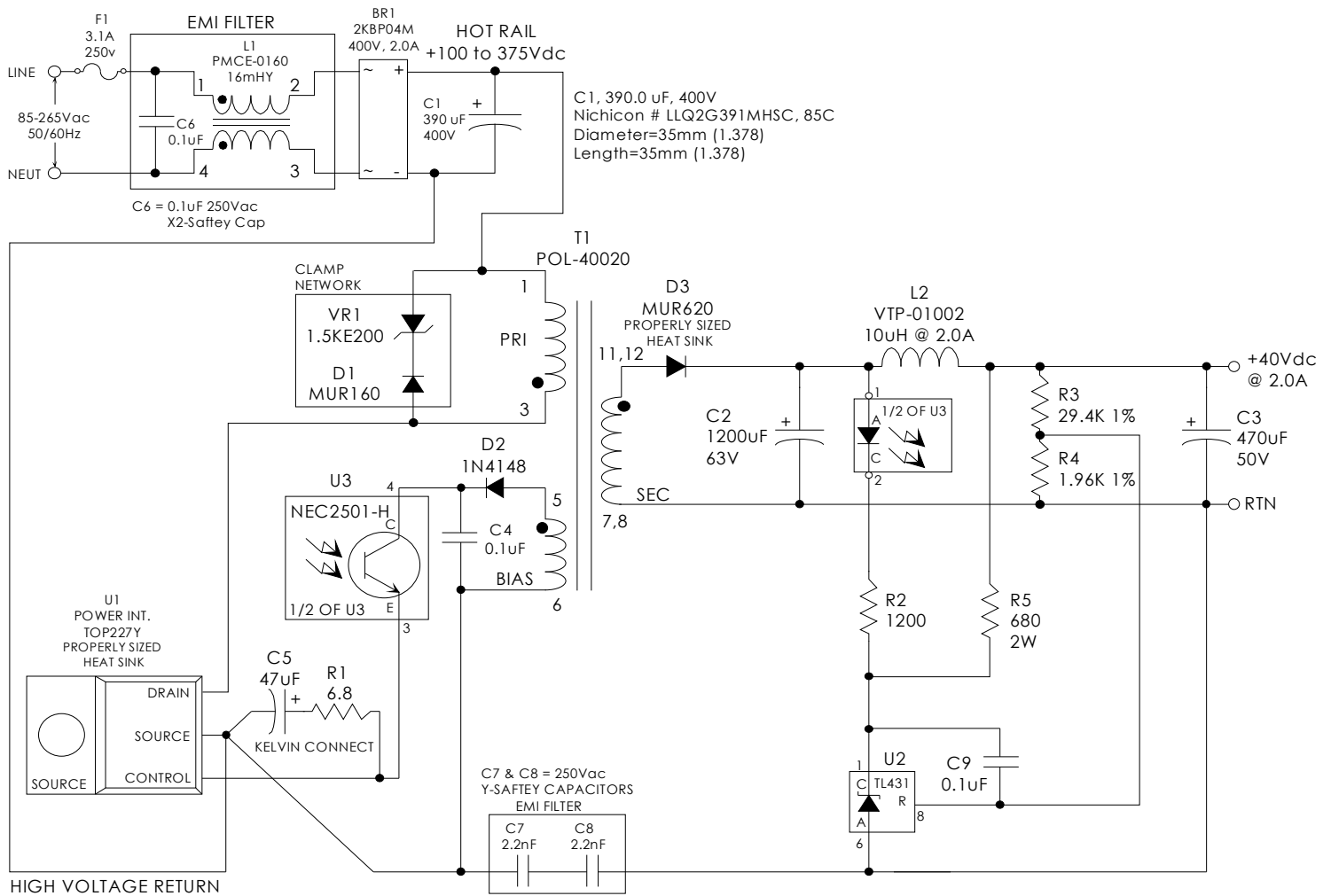
FIGURE 3: TYPICAL APPLICATION CIRCUIT

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

- L1 = PMCE-0160 16mHy 1.5A EMI/RFI CMC
- T1 = POL-30030 MAIN SWITCHING TRANSFORMER
- L2 = VTP-01002 8uHy@4.0A(10uHy@2.0A) INDUCTOR

ALUMINUM ELECTROLYTIC FILTER CAPACITOR RATINGS:

- C1: $\geq 400V$, Ripple Rated $\geq 720mA$ @ 120Hz @ Max. Operating Temp.
(Nichicon P/N LLQ2G391MHSC, 85C)
- C2: $\geq 63V$, Ripple Rated $\geq 2350mA$ @ 100KHz @ Max. Op. Temp.
(Panasonic P/N EEUFA1J122L, 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-40020 | REVISION: 05/11/99 |
| ENGR: AL SANTOS | REF: PWR-TOP227Y |
| APPD: TOM O'NEIL | SHEET: 2 OF 2 |