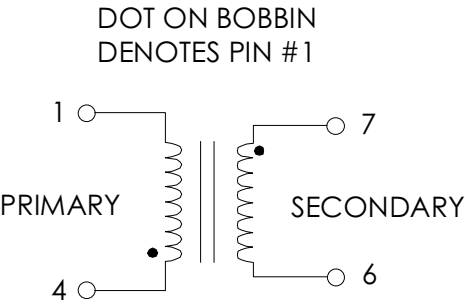


TABLE 1: ELECTRICAL SPECIFICATIONS AT 25 °C
SWITCHING TRANSFORMER DESIGNED FOR USE WITH POWER INTEGRATIONS
PWR-TOP210PFI REFER TO APPLICATION CIRCUITS OF FIGURE 4A OR 4B.

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
PRIMARY INDUCTANCE (4-1) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	1.30	1.45	1.65	mHY
TURNRATIO'S: SECONDARY (7-6): PRIMARY (4-1)	—	1:10.00	—	± 4%
PRI LEAKAGE IND. (7-6 SHORTED) VOLTAGE = 0.250Vrms FREQUENCY = 100 KHZ	—	13.0	25.0	μHY
HIPOT: PRIMARY TO SECONDARY	1000	—	—	Vdc
FIGURE 4A CIRCUIT PARAMETERS:(1) DC HOT RAIL VOLTAGE OUTPUT VOLTAGE OUTPUT CURRENT CONTINUOUS OUTPUT CURRENT PEAK LINE REGULATION LOAD REGULATION 10-100% RIPPLE	200 — 0.0 — — — — —	— 17.0 — — 1.50 0.50 50.0	370 — 100 120 — — — —	Vdc Vdc mA mA ±% ±% ±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) VARNISH FINISHED ASSEMBLY.
D) UL CLASS (B) 130 INSULATION SYSTEM PM130-R1,
PM130-H1, PM130-H1A (UL FILE #E177139) OR ANY UL
AUTHORIZED CLASS (B) INSULATION SYSTEM.

(1) REFER TO APPLICATION CIRCUIT OF FIGURE 4A.
FOR 12V VERSION REFER TO APPLICATION CIRCUIT OF FIGURE 4B

FIGURE 2: PHYSICAL DIMENSIONS INCHES (mm)

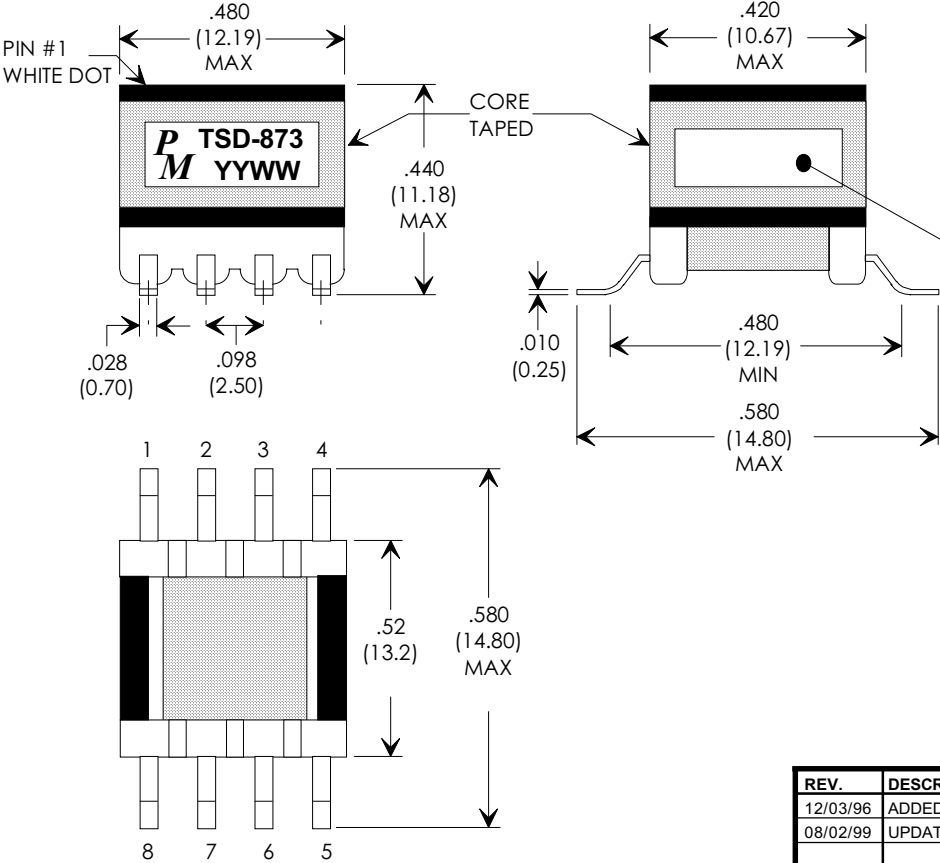
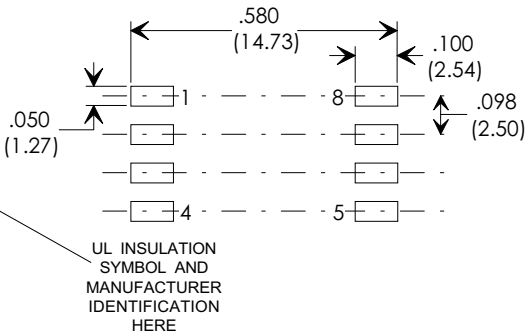


FIGURE 3: RECOMMENDED PCB LAYOUT
DIMENSIONS IN INCHES (mm)



EP10, 8-PIN SMD

REV.	DESCRIPTION OF CHANGES	BY
12/03/96	ADDED SECOND APPLICATION CIRCUIT (4B), UPDATED PRI INDUCT.	TO
08/02/99	UPDATE TO UL CLASS (B) INSULATION SYSTEM	MD



**Premier
Magnetics Inc.**

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
DIMENSIONAL TOLERANCES ARE:
DECIMALS ANGLES
.XX ± .20 ±0 ° 30'
.XXX ± .10
DO NOT SCALE DRAWING

TRANSFORMER CONTROL DRAWING

PREMIER P/N: TSD-873	REVISION: 08/02/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP210PFI
SCALE: NONE	SHEET: 1 OF 5

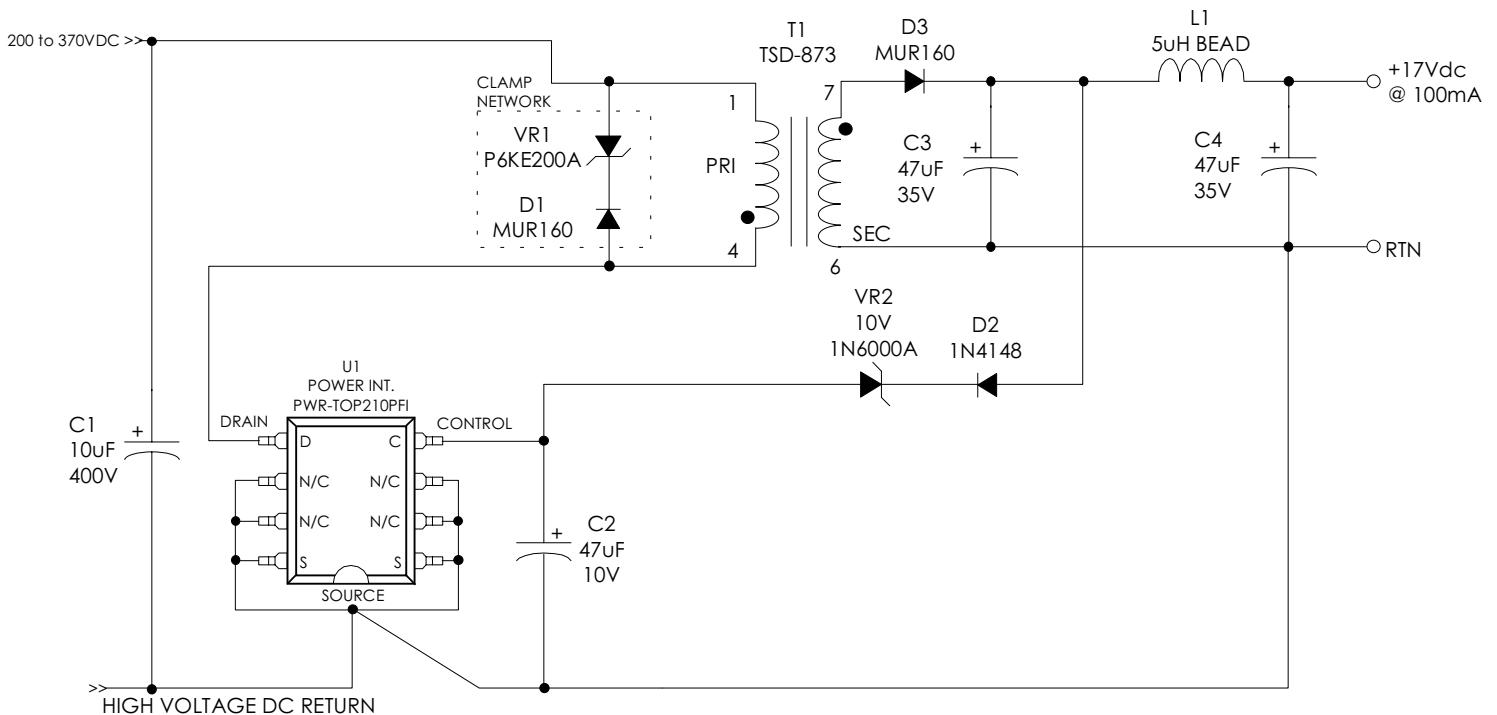
APPLICATION NOTES

Premier Magnetics' TSD-873 Switch Mode Transformer was designed for use with Power Integrations, Inc. PWR-TOP210PFI 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-873 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 1.77 watt application circuit utilizing Power Integrations PWR-TOP210 switching regulator in the NON-ISOLATED flyback buck-boost configuration. This circuit provides +17Vdc at 100mA continuous and is capable of >120mA peak for short periods of time. This circuit represents the lowest cost implementation and utilizes the secondary winding for direct feedback control. The component values listed are intended for reference purposes only. VR2 can be replaced with a Resistor that may be adjusted up to 50 Ohms MAX. and down to 10 Ohms MIN. As R1 increases in value the output voltages will increase, and vice-versa, thus allowing some fine adjustment on the initial output voltage.

FIGURE 4A: TYPICAL APPLICATION CIRCUIT



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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
DIMENSIONAL TOLERANCES ARE:
DECIMALS ANGLES
.XX ± .20 ±0° 30'
.XXX ± .10
DO NOT SCALE DRAWING

TRANSFORMER CONTROL DRAWING

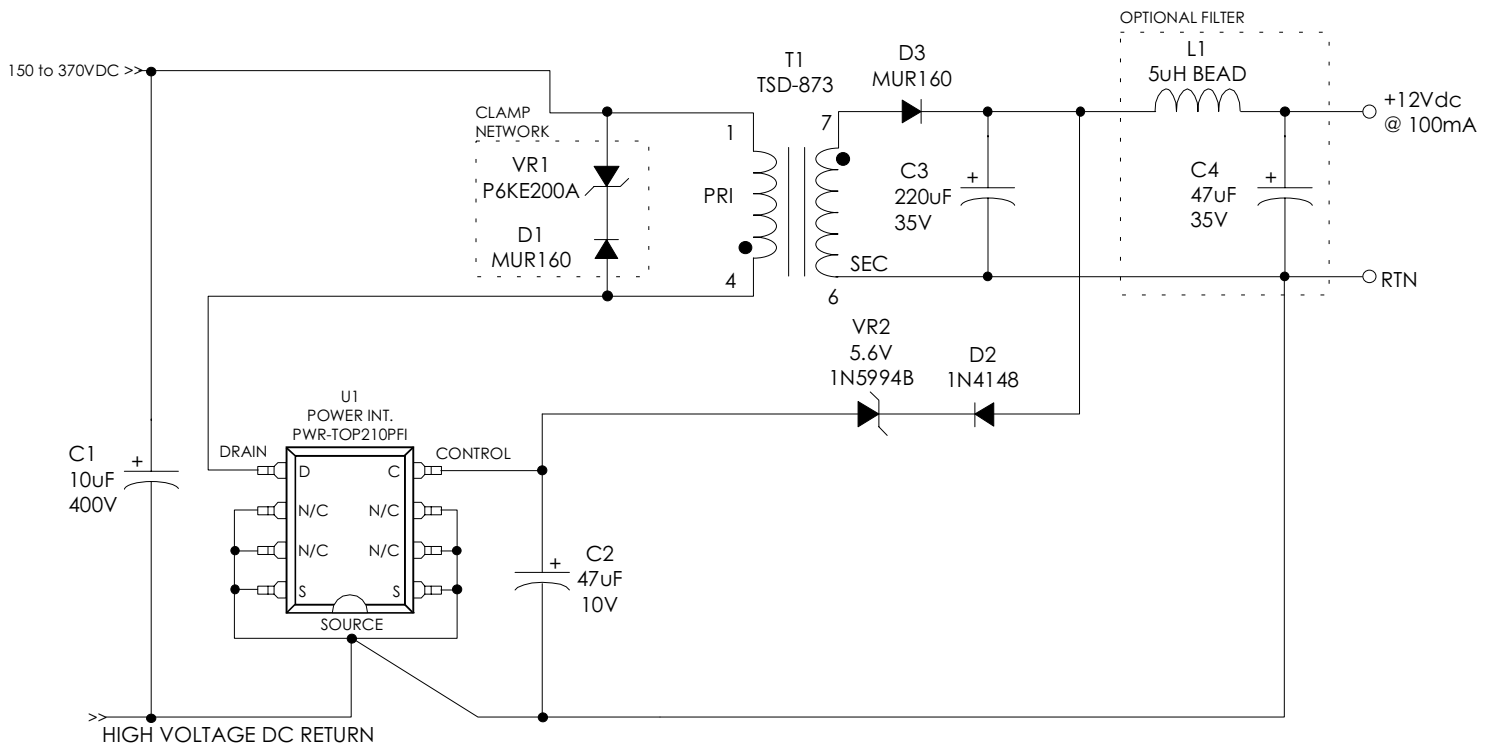
PREMIER P/N: TSD-873	REVISION: 08/02/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP210PFI
SCALE: NONE	SHEET: 2 OF 5

APPLICATION NOTES

Below is an 1.2 watt application circuit utilizing Power Integrations PWR-TOP210 switching regulator in the NON-ISOLATED flyback buck-boost configuration. This circuit provides +12Vdc at 100mA continuous and is capable of >120mA peak for short periods of time. This circuit represents the lowest cost implementation and utilizes the secondary winding for direct feedback control. The component values listed are intended for reference purposes only. VR2 can be replaced with a Resistor that may be adjusted up to 50 Ohms MAX. and down to 10 Ohms MIN. As R1 increases in value the output voltages will increase, and vice-versa, thus allowing some fine adjustment on the initial output voltage.

FIGURE 4B: TYPICAL APPLICATION CIRCUIT

PARAMETER	SPEC LIMITS			UNITS
	MIN.	TYP.	MAX.	
FIGURE 4B CIRCUIT PARAMETERS:(1)				
DC HOT RAIL VOLTAGE	150	—	370	Vdc
OUTPUT VOLTAGE	—	12.0	—	Vdc
OUTPUT CURRENT CONTINUOUS	0.0	—	100	mA
OUTPUT CURRENT PEAK	—	—	120	mA
LINE REGULATION	—	1.50	—	±%
LOAD REGULATION 10-100%	—	0.50	—	±%
RIPPLE	—	250.0	—	±mV



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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
DIMENSIONAL TOLERANCES ARE:
DECIMALS ANGLES
.XX ± .20 ±0° 30'
.XXX ± .10
DO NOT SCALE DRAWING

TRANSFORMER CONTROL DRAWING

PREMIER P/N: TSD-873	REVISION: 08/02/99
DRAWN BY: TOM O'NEIL	REF: PWR-TOP210PFI
SCALE: NONE	SHEET: 3 OF 5