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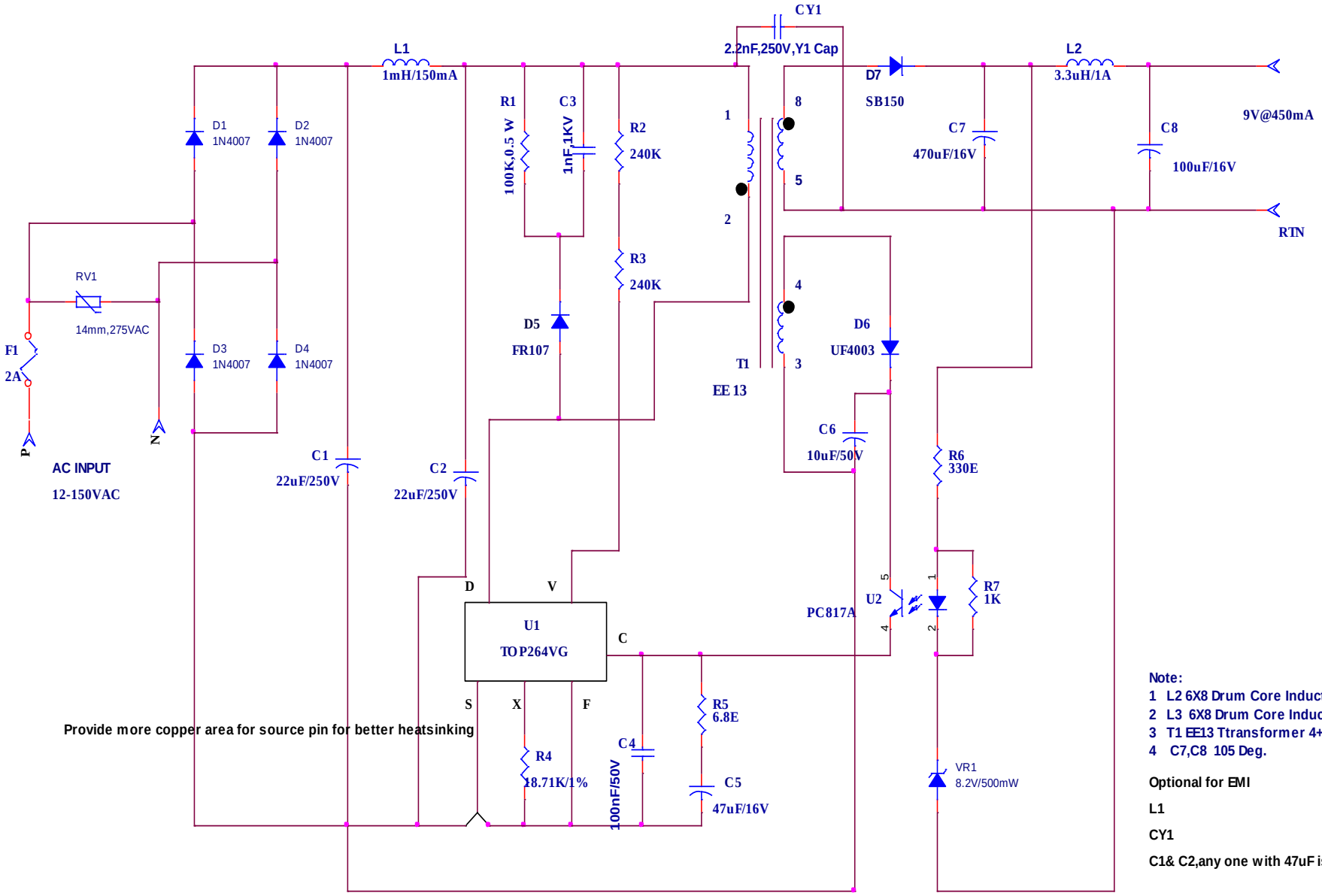
SPECTRA INNOVATIONS INDIA PVT LTD, BANGALORE-43

Schematic Diagram for 5W, DC-DC Psu Design Using TOP264VG device

Customer : GreenTech solution Doc No : SII-EPDVS -1131-0412



Note:

1 L2 6X8 Drum Core Inductor
2 L3 6X8 Drum Core Inductor
3 T1 EE13 Ttransformer 4+4 Horizontal
4 C7,C8 105 Deg.

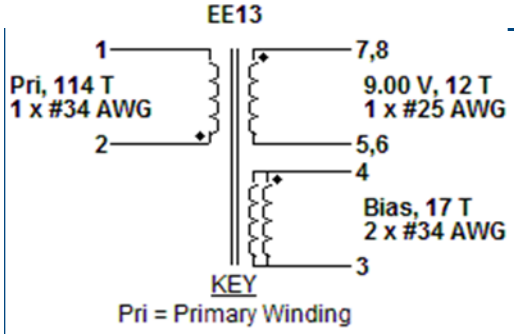
Optional for EMI

L1

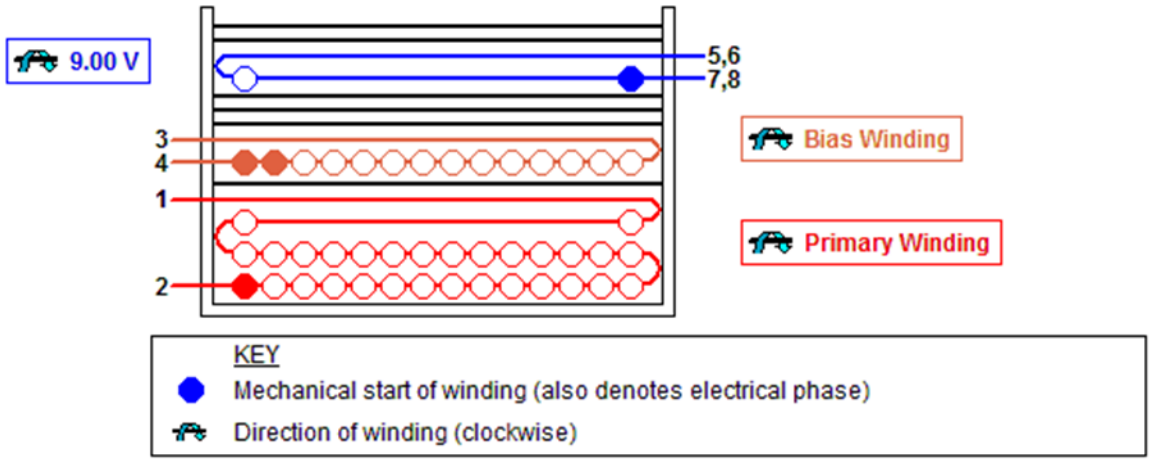
CY1

C1& C2,any one with 47uF is ok

Transformer Design details:
Electrical Diagram



Mechanical Diagram



Winding Instruction

Primary Winding

Start on pin(s) 2 and wind 114 turns (x 1 filar) of item [5] in 3 layer(s) from left to right. At the end of 1st layer, continue to wind the next layer from right to left. At the end of 2nd layer, continue to wind the next layer from left to right. On the final layer, spread the winding evenly across entire bobbin. Finish this winding on pin(s) 1.
Add 1 layer of tape, item [3], for insulation.

Bias Winding

Start on pin(s) 4 and wind 17 turns (x 2 filar) of item [5]. Wind in same rotational direction as primary winding. Spread the winding evenly across entire bobbin. Finish this winding on pin(s) 3.

Add 3 layers of tape, item [3], for insulation.

Secondary Winding

Start on pin(s) 7,8 and wind 12 turns (x 1 filar) of item [6]. Spread the winding evenly across entire bobbin. Wind in same rotational direction as primary winding. Finish this winding on pin(s) 5,6.

Add 2 layers of tape, item [3], for insulation.

Core Assembly

Assemble and secure core halves. Item [1].

Varnish

Dip varnish uniformly in item [4]. Do not vacuum impregnate.

Comments

1. Pins 7 and 8 are electrically shorted to each other on the PCB via a copper trace.
2. Pins 5 and 6 are electrically shorted to each other on the PCB via a copper trace.
3. For non margin wound transformers use triple insulated wire for all secondary windings.

Materials

Item	Description
[1]	**Core: EE13, NC-2H (Nicera) or Equivalent, gapped for ALG of 144 nH/T²**
[2]	**Bobbin: Generic, 4 pri. + 4 sec.**
[3]	**Barrier Tape: Polyester film [1 mil (25 µm) base thickness], 7.90 mm wide**
[4]	**Varnish**
[5]	**Magnet Wire: 34 AWG, Solderable Double Coated**
[6]	**Magnet Wire: 25 AWG, Solderable Double Coated**

Electrical Test Specifications

Parameter	Condition	Spec
Electrical Strength, VAC	**60 Hz 1 second, from pins 1,2,3,4 to pins 5,6.**	**500**
Nominal Primary Inductance, µH	**Measured at 1 V pk-pk, typical switching frequency, between pin 1 to pin 2, with all other Windings open.**	**1863**
Tolerance, ±%	**Tolerance of Primary Inductance**	**10.0**
Maximum Primary Leakage, µH	**Measured between Pin 1 to Pin 2, with all other Windings shorted.**	**74.53**