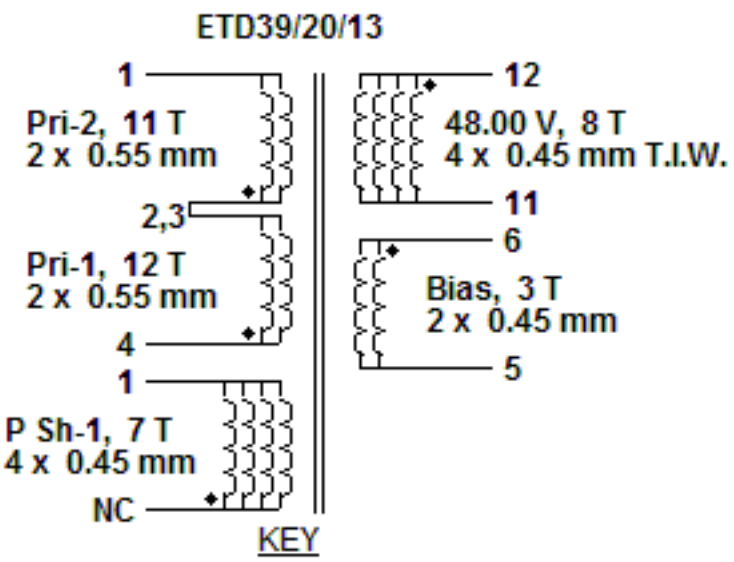
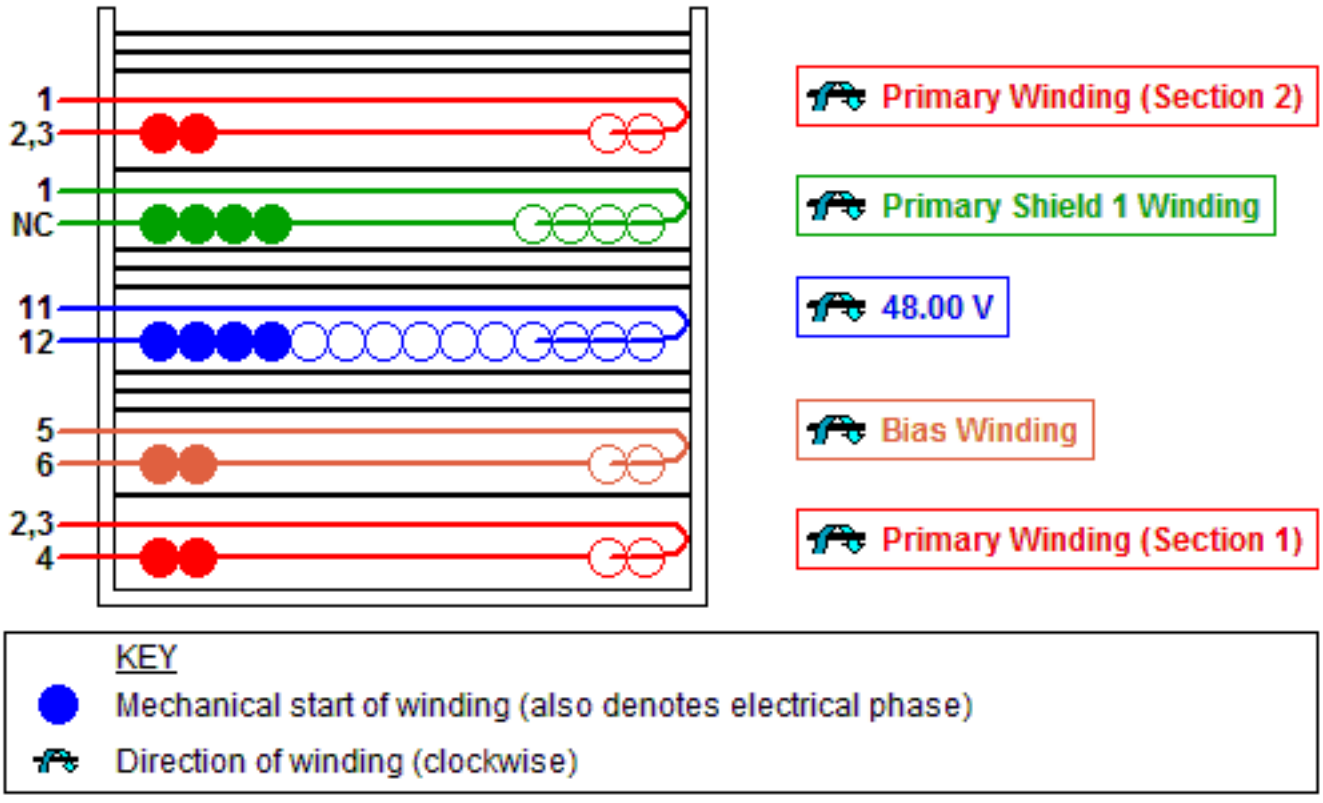
Electrical Diagram



Mechanical Diagram



Winding Instruction

Primary Winding (Section 1)

Start on pin(s) 4 and wind 12 turns (x 2 filar) of item [5]. in 1 layer(s) from left to right. Winding direction is clockwise. On the final layer, spread the winding evenly across entire bobbin. Finish this winding on pin(s) 2,3.

Add 1 layer of tape, item [3], for insulation.

Bias Winding

Start on pin(s) 6 and wind 3 turns (x 2 filar) of item [6]. Winding direction is clockwise. Spread the winding evenly across entire bobbin. Finish this winding on pin(s) 5.

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

Secondary Winding

Start on pin(s) 12 and wind 8 turns (x 4 filar) of item [7]. Spread the winding evenly across entire bobbin. Winding direction is clockwise. Finish this winding on pin(s) 11.

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

Primary Shield 1 Winding

Start on any (temp) pin on the secondary side and wind 7 turns (x 4 filar) of item [6]. Winding direction is clockwise. Spread the winding evenly across entire bobbin. Finish this winding on pin(s) 1. Cut out wire connected to temp pin on secondary side. Leave this end of primary shield winding not connected. Bend the end 90 deg and cut the wire in the middle of the bobbin.

Add 1 layer of tape, item [3], for insulation.

Primary Winding (Section 2)

Start on pin(s) 2,3 and wind 11 turns (x 2 filar) of item [5]. in 1 layer(s) from left to right. Winding direction is clockwise. On the final layer, spread the winding evenly across entire bobbin. Finish this winding on pin(s) 1.

Add 3 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 2 and 3 are electrically shorted to each other on the PCB via a copper trace.
2. Use of a grounded flux-band around the core may improve the EMI performance.
3. For non margin wound transformers use triple insulated wire for all secondary windings.

Materials

Item	*Description*
[1]	**Core: ETD39/20/13, PC95, gapped for ALG of 313 nH/T²**
[2]	**Bobbin: Generic, 8 pri. + 8 sec.**
[3]	**Barrier Tape: Polyester film [1 mil (25 µm) base thickness], 25.70 mm wide**
[4]	**Varnish**
[5]	**Magnet Wire: 0.55 mm, Solderable Double Coated**
[6]	**Magnet Wire: 0.45 mm, Solderable Double Coated**
[7]	**Triple Insulated Wire: 0.45 mm**

Electrical Test Specifications

Parameter	*Condition*	*Spec*
Electrical Strength, VAC	**60 Hz 1 second, from pins 1,2,3,4,5,6 to pins 11,12.**	**3000**
Nominal Primary Inductance, µH	**Measured at 1 V pk-pk, typical switching frequency, between pin 1 to pin 4, with all other Windings open.**	**169**
Tolerance, ±%	**Tolerance of Primary Inductance**	**10.0**
Maximum Primary Leakage, µH	**Measured between Pin 1 to Pin 4, with all other Windings shorted.**	**2.53**

Although the design of the software considered safety guidelines, it is the user's responsibility to ensure that the user's power supply design meets all applicable safety requirements of user's product.

	Description	Fix	Ref. #
	Drain voltage close to BVDSS at maximum OV threshold.	Verify BVDSS during line surge, decrease VUVON_MAX or reduce VOR.	237