

Transformer details of 3 output power supply with 85V to 270VAC Input, using TNY289P :

Output is : i) 5V / 2A ii) 15V / 0.2A iii) -15V / 0.2A

1. Transformer core / bobbin is EE20/10/6, CF138 grade or equivalent (N87 grade). Gapped for 157nH/turns squared. Air gap is 0.125mm in each limb. Bobbin is of 10 pins vertical mounting.
2. W1, Primary winding : Wind **67 turns, 1 strand x 36 SWG** on TWO layers . **Start pin 2 & finish pin 1.**
3. 2 layers of 2 mil tape.
4. W2, 12V, Bias winding : Wind W2, **9 turns 1 strand x 36 SWG**, wound on ONE layer. **Start pin 5 & Finish pin 4.**
5. 2 layers of 2 mil tape.
6. W3, 5V, 2A winding : Wind **W3, 4 turns , 3 strand x 26 SWG** on ONE layer. **Start pin 10 and finish pin 9**
7. 2 layers of 2 mil tape.
8. W4 and W5 (+15V and -15V) windings : Wind W4 and W5 as bi-filar windings. Each is **11 turns, 1 strand x 32 SWG** wound on ONE layer . **Start W4 at pin 8 & finish W4 at pin 7. Start W5 at pin 7 and finish W5 at pin 6.**
9. 2 layers of 2 mil tape.
10. Air gap to be uniformly maintained on each limb.
11. Primary inductance : 776uH +10%. Measured at 132 KHz and measured between pins 2 & 1.
12. Leakage inductance : Not greater than 35uH measured between pins 2 & 1 and with all other pins shorted to each other.
13. Put a flux band of 4mm over the transformer.