Half Bridge Board Driver Transformer Winding Details and Testing For 1EDF-G1 driver

MAG-1235

YH / FZ

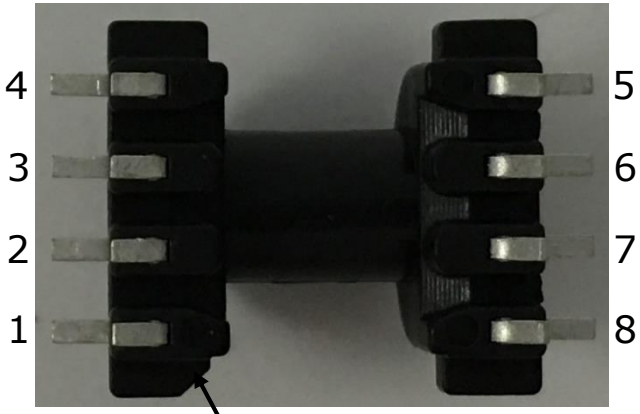
- restricted -

Parts Required

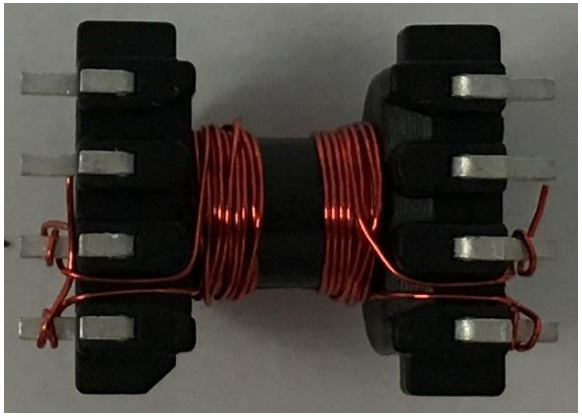
	Type	Manufacturer	Part No	Comments
Core	EP10	Ferroxcube	EP10-3C96	
Bobbin	EP10	Ferroxcube	CSHS-EP10-1S-8P-T	
Wire	32AWG			
Tape	Mylar			Width: 6mm, Thickness: 0.05mm

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Winding Details



Transformer bobbin bottom view



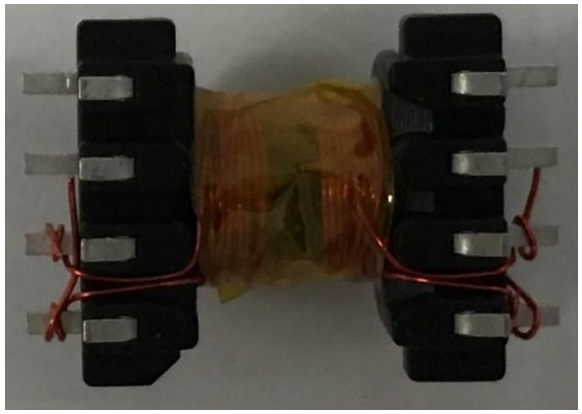
(Bottom view)

Wind 9 turns 32 AWG solderable magnet wire across pins 1-2 and 7-8 such that:

- 1/3 of space left between the windings.
- Wires do not cross when connecting to the pins.

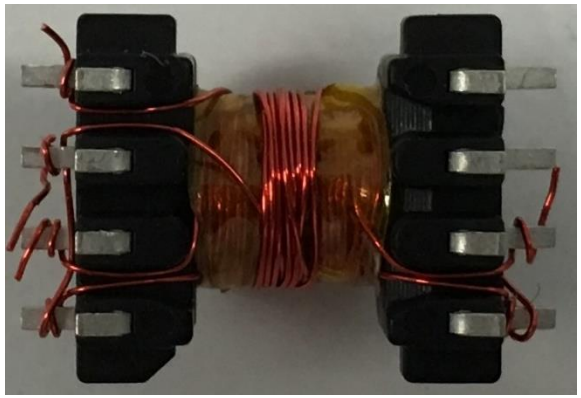
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Winding Details



(Bottom view)

Wrap 2.5 turns 6mm wide mylar tape over the windings.



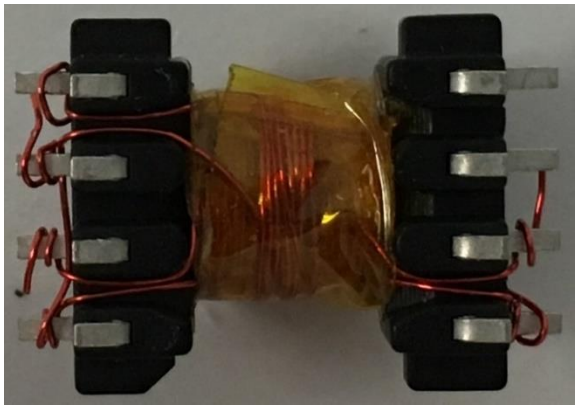
(Bottom view)

Wind 10 turns 32 AWG solderable magnet wire across pins 3-4 such that:

- The winding is located in the center of the bobbin.
- Wires do not cross when connecting to the pins.

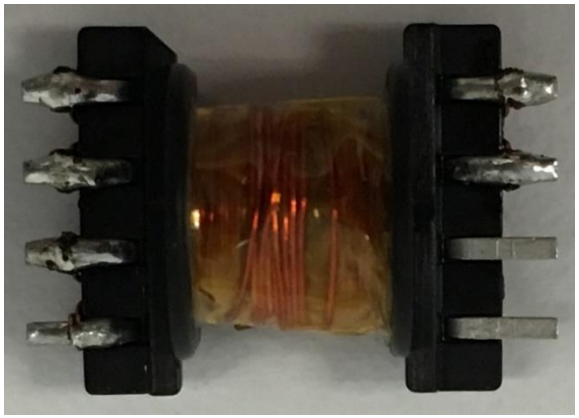
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Winding Details



(Bottom view)

Wrap 2.5 turns 6mm wide mylar tape over the windings.



(Top view)

Terminate all wires at the pins such that:

- The wires are wrapped around the pins two turns.
- Excess wires are trimmed.
- All wires are soldered at the pins.

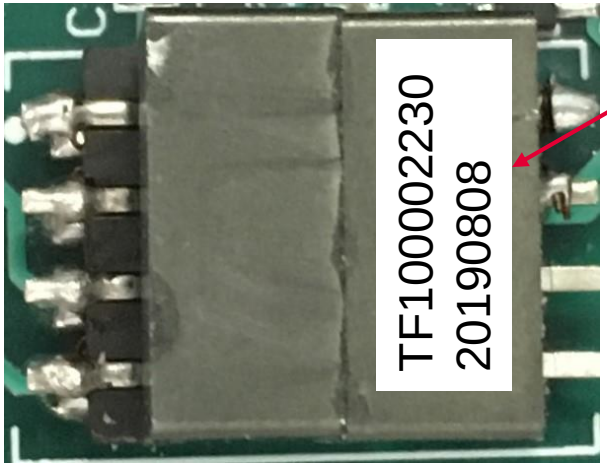
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Winding Details



Place three small drops of ferrite adhesive on one of the core halves as shown.

Place a sticker with
„TF100002230"
„20190808"
On the surface



(Top view)

Assemble the cores on the bobbin and apply enough pressure to minimize the gap between the cores.
Make sure:

- The cores are straight.
- Heat may be required to help glue set.

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Testing

1. HiPot test the finished transformer. All three windings tested one pair at a time at 1500Vdc.
2. Assemble the transformer on the PCB: 1236 Half Bridge DSO-TSC - 1EDF-G1
3. Apply 5.00V to the 5V input of the board.
4. Measure output voltages across C13 and C23. They should read between 8V and 9V with no input at J1.
5. Mark tested component with the part number: 1235

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- Frequency: ~500kHz

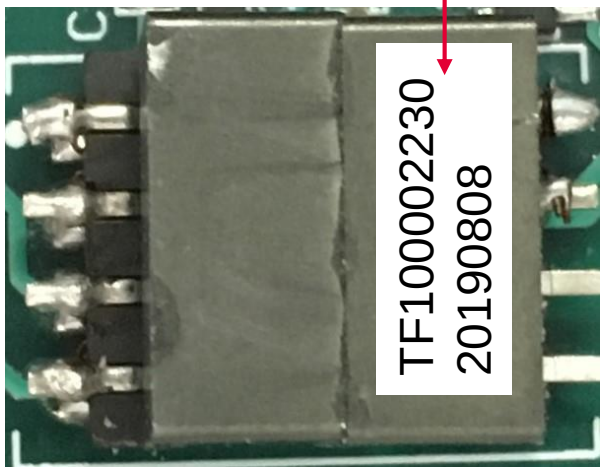
Inductance (@500kHz)

- 1-2 : 226.428Ohm ; 70.661uH (+-10%)
- 3-4 : 279.16Ohm ; 87.105uH (+-10%)
- 7-8 : 226.44Ohm ; 70.744uH (+-10%)

Leakage (@500kHz)

- 1-2 : 3.88Ohm ; 1.197mH (+-10%)
- 3-4 : 3.11Ohm ; 942nH (+-10%)
- 7-8 : 4.99Ohm ; 1.55mH (+-10%)

Place a sticker with
„TF100002230"
„20190808"
On the surface



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