

Fabric PCB Tutorial

MAS.962 New Textiles, Spring 2010

Supplies

Illustrator file with circuit drawing

Constructing: conductive fabric, backing fabric, mat knife, iron

Soldering: LED, resistor, pliers, flux, clamp, soldering iron & solder

Protecting: epoxy, toothpicks, binder clips, mold components

Constructing a fabric PCB

Step 1. (already done for you) Iron a sheet of Heat-n-Bond onto a sheet of conductive fabric.

Step 2. (already done for you) Laser etch the circuit. Place the fabric into the machine so that its paper side is facing up to etch it.

Step 3. (already done for you) Laser cut the backing fabric.



Step 4. Peel the paper off of the circuit only where you want it to adhere to the backing fabric.





Step 5. Iron the circuit onto the backing fabric.



Step 6. Peel the excess conductive fabric away from the backing fabric, leaving the circuit behind.



Soldering a fabric PCB



Step 1. Bend the ends of the resistor down & insert into fabric PCB.



- Step 2. Bend resistor legs out slightly and apply flux.
- Step 3. Solder the resistor.
- Step 4. Trim legs.
- Step 5. Insert LED with + end (anode) facing resistor.
- Step 6. Bend legs out slightly and apply flux.
- Step 7. Hold LED with clamp to solder.
- Step 8. Trim legs.





Step 9. Test with power supply.

Protecting the solder joints

Step 1. Clamp circuit to mold with binder clips.

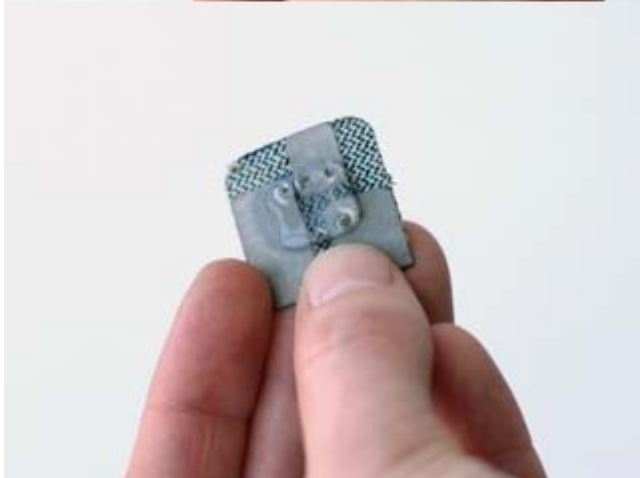


Step 2. Mix epoxy and pour into mold.



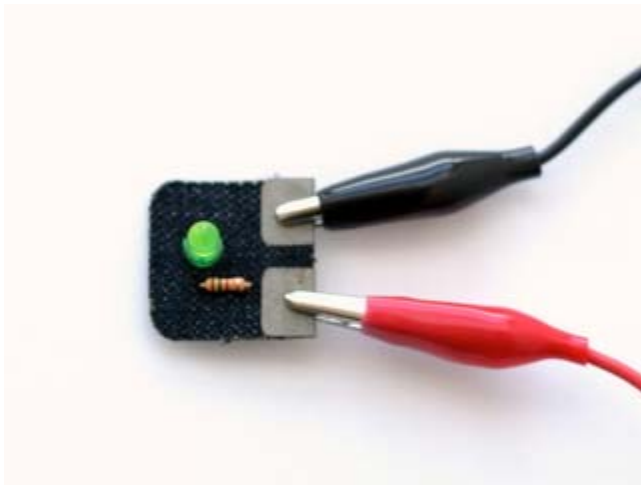
Step 3. Wait for epoxy to cure (approx. 10 mins).

Step 4. Remove circuit from mold.





Step 5. Test with power supply.



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