

5 Steps to a Perfect Solder Joint Using a Soldering Iron

Soldering electronic parts can be tricky. A lot of practice is needed in order to master the technique of achieving perfect solder joints. Having high-quality soldering equipment and following these five basic steps can help you achieve a perfect solder joint every time:

1) Proper temperature settings– If you will be using a soldering iron frequently, then consider investing in a soldering iron that comes with a thermostat. Otherwise, another good option would be to consider an iron that has a fixed temperature.

2) Tin the tip of the soldering iron – Most soldering irons have a gray or dull silver tip. At times, they are bare and copper-hued. Remember to tin the tip to avoid burning it.

3) Heat the joint - Use the tip of the iron to heat the joint. Make sure that both the component pin or lead and the solder pad are heated evenly. Apply a small drop of the solder on the tip, so the heat can transfer quickly to the joint. When applying the solder, touch its end to the joint to allow contact between the pin or component lead and the solder pad. The solder must melt properly and flow smoothly onto the pad and the pin. Repeat this step if needed to achieve the proper solder flow between the pin and the pad.

4) Let the solder flow – Continue heating the solder and let it flow to the joint. Make sure it fills the hole and that it can flow smoothly onto the pin and solder pad. The solder will always go to where the heat is. Once enough of it has been placed on the joint and it has flowed efficiently onto the lead and solder pad, take away the iron from the joint and let it cool by itself.

5) Trim the lead – Get your diagonal cutters and trim the lead near the board. Take note that this step applies only when components have wire leads. You do not have to cut pins on integrated circuit sockets or chips.



5 Steps to a Perfect Solder Joint

USING A SOLDERING IRON



Tin the Tip

Tin the tip of your soldering iron to avoid burning it.



Fix the Temp

Use a thermostat or a soldering iron with a fixed temperature for consistency.



Heat the Joint

Use the tip of the iron to heat the joint. Apply a small drop of solder on the tip so the heat can transfer quickly to the joint.



Let the solder flow

Continue heating the solder and let it flow to the joint. Make sure it fills the hole and can flow smoothly onto the pin and solder pad.



Trim the Lead

Get your diagonal cutters and trim the lead near the board. This step only applies when components have lead wires.