



Hand Soldering Procedure for EP Capacitors

By Jon Rhan

Due to the relatively large size of the EP capacitor, the traditional method of surface mounting using a reflow furnace is likely to be problematic when applied to EP units. The solder pad area is much larger than for other surface-mount components, and therefore a proportionally large amount of solder is needed, requiring longer heating times. Furthermore, the large thermal mass of the capacitor adds to the total heating time as well. Heating the area of the large solder pad using a reflow furnace causes the entire board and the part to be heated for too long. By comparison, hand soldering with a soldering iron has been found to be quick and effective. The method for this hand soldering procedure is described in the steps below. This same method can apply for tin lead (Pb)-containing or lead (Pb)-free solder connections.

1. Mount the EP capacitor to the board and secure it with nuts on the two bolts
2. Attach a 1/8 in tip to the soldering iron
3. Set soldering iron temperature near 730 °F (388 °C)
4. Wet the joints at the solder pads with flux
5. Solder by hand feeding solder wire into the joint
6. Clean finished solder joints with flux remover
7. To check for defect conditions, refer to the acceptability standards in IPC-A-610 section 5



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