

Illustration of the sequence of soldering capacitors

Should I reflow solder my film capacitors?

Vishay recommends that users observe the following guidelines for soldering our film capacitors. Adherence to these recommendations will help to safeguard product specific ations and reliability while preventi ng damage to the capacitors during soldering. Reflow soldering process should not be attempted on leaded film capacitors.

Can SMD components be used together with leaded capacitors?

When SMD components are used together with leaded ones, the film capacitors should not pass into the SMD adhesive curing oven. The leaded components should be assembled after the SMD curing step. Leaded film capacitors are not suitable for reflow soldering.

What are the conditions for manual soldering?

One recommended condition for manual soldering is that the tip of the soldering iron should be $\leq 360^{\circ}\text{C}$ and the soldering contact time should be no longer than 3 seconds. Even when suitable solvents are used, a reversible change of the electrical characteristics may occur in uncoated capacitors immediately after they are washed.

What temperature should a soldering iron be?

In order to ensure proper conditions for manual or selective soldering, the body temperature of the capacitor (T_s) must be $\leq 120^{\circ}\text{C}$. One recommended condition for manual soldering is that the tip of the soldering iron should be $\leq 360^{\circ}\text{C}$ and the soldering contact time should be no longer than 3 seconds.

How does a solder joint work?

During the soldering process, the solder joint melts and both metal surfaces of the joint (the lead and the PC pad) are heated to the necessary temperature to bond chemically with the solder. Once the solder flows into the joint, lift the soldering iron tip straight up, so that the finished soldered joint appears cone-shaped.

What is a recommended wave soldering profile?

The recommended wave soldering profile for our leaded components is defined as follows: 260°C T_p - 5°C preheat T_p T_{max} . T_{solder} profile $T_{\text{component}}$ (body) Preheating Total contact time ≤ 5 s Maximum solder temperature t_p T_p : Peak temperature of the component body (top) T_{max} .

In order to reduce damage to the capacitor, be sure to preheat the capacitor and the mounting substrate. Also, set the preheating conditions so the temperature difference ΔT between the solder temperature and the capacitor surface temperature is within the range shown in Table 1.

Radial capacitors can be hand soldered into boards using soldering irons, provided care is taken not to touch

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the body of the capacitor with the iron tip. Soldering should be carried out from the opposite side of the board to the radial to minimise the risk of damage to the capacitor body.

The following procedures have been successful in soldering KYOCERA AVX 500 Series capacitors to both soft and hard substrates with a variety of metallizations. For general handling and soldering recommendations as well as suggestions regarding epoxy bonding, kindly refer to Bulletin Nos. 201 and 202, included in our catalog.

solder required is one that results in a well formed solder fillet. Inadequate or excessive solder may result in undesirable residual stresses on the chip component. The capacitor-substrate assembly is heated to the solder flow point temperature, allowing sufficient time for wetting of the solder to the metallized surfaces to occur, to form a well

Anyway, another suggestion for desoldering such capacitors would be to get a hot air gun (could be something cheap as a paint stripping gun) and heat up the pcb under the capacitor to around 60-80 degrees then add a ...

classic solder wave with its laminar solder flow hits the underside of chip resistors and capacitors tangentially and may not always get to the corners formed by the rectangular components and the flat board surface. Because of sharp corners, outgassing and solder skips are two main concerns during the wave soldering of resistors and capacitors.

Reflow soldering process should not be attempted on leaded film capacitors. **SOLDERING GUIDELINES AND RECOMMENDED WAVE SOLDERING PROFILE** With regard to the resistance to soldering heat and the solderability, our products comply with "IEC 60384-1" and the additional type specifications.

put the capacitor in place and practice holding it down firmly but gently with a thin piece of wood or some strong thin cardboard with your non-dominant hand. Rotate the board so it feels comfortable. collect a blob of ...

believe you can get a good solder joint with a soldering iron: "yes" or "no"? (Figure 1). The temperature of a soldering iron does not resemble the temperature required for a solder joint to form. The iron is at a much higher temperature than required for reflow of the solder joint. This large difference in temperature is

The reflow process of SAC305 solder paste was investigated by differential scanning calorimetry (DSC) and measurement of the temperature profiles in a real continual convection reflow furnace.

If the board is single sided, you can carry out hand soldering while preheating the chip and the board using a hotplate. The following description, which applies to a two-sided board, covers 1 the method of soldering while preheating the parts of the board and the chip to be repaired using a spot heater, and 2 the method of soldering using a spot heater alone.

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