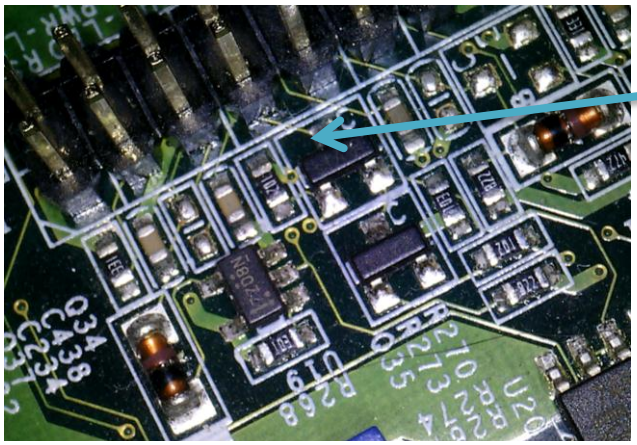
HCT2-200

Product capabilities and usages

The HCT2-120 was developed for small component sizes and low board densities. The low airflow relative to the existing components was purposeful to prevent the air from blowing the smaller components off of the Printed Circuit Card Assemblies (PCBAs) during either removal or installation. This design feature can seriously impact the heat transfer to the solder, resulting in a perception that the product is not working properly. We have run a series of available circuit card assemblies and timed the ability to reach removal temperature to aid the Sales group in identifying the appropriate applications to sell the HCT2-120 into (attachment A).

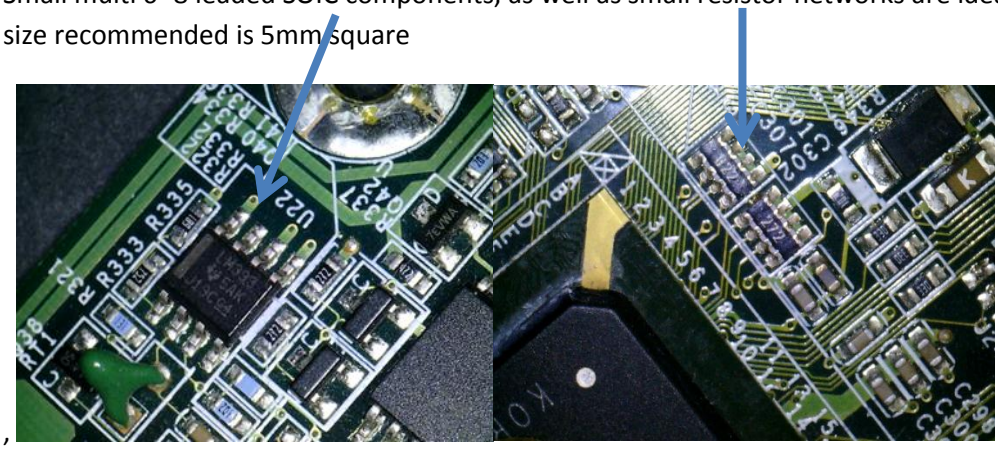
This design approach also means that there are limitations in where the product may be used successfully without additional aids (such as a preheater). General guidance is that the product is good for ≤4 layer PCBAs that have ≤1oz copper traces. The board density will play a larger factor in the success, as the higher the component/sq.-in, the more heat diffusion results, requiring additional time or variability in the process. As the board thickness increases, copper density increases, or the component density increases, the need for additional aids increase in being successful in component removal/reflow.

Some guidance for general usage is:



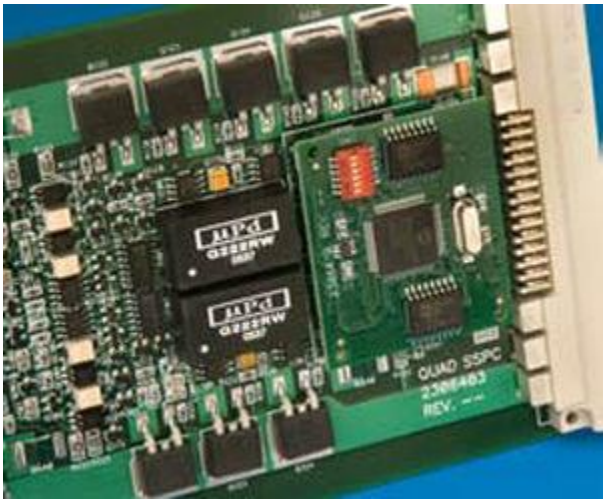
Removal and soldering of small components close to plastic components that would melt with larger hot air tools is an ideal application for the HCT2- 120 as airflow is controlled to a lower flow rate for small components

Small multi 6 -8 leaded SOIC components, as well as small resistor networks are ideal, but the maximum size recommended is 5mm square



If there are these smaller components adjacent to temperature sensitive devices, the HCT2-200 can be employed, since there is high degree of controllability of the hot air due to the precision that the nozzle allows.

Applications that will require additional aids when using the HCT2-200



Teledyne Solid-state power controller (SSPC) - 2 - 10 A, 28 V DC | SSPCB04028 series

General guidelines are that if the components are attached to major ground or power planes, or the board thickness and densities are greater, the device may need a preheater to help in the solder liquefaction process. The circuit card above (a power control module by Teledyne Microelectronics[i]) that is capable of providing 10A current has a board density that would require a preheater to aid in the solder liquefaction process. The board design is such that there are significant copper plane layers in the board construction. This board construction aids in the heat transfer to the mounting points, but in turn impedes the ability of the HCT2-200's ability to reflow solder.