SILICON CORTEX
Electronics Design Consultancy

T-962A Infrared IC Heater Calibration

Stephen Clemmet
sclemmet@siliconcortex.uk
Cambridge Makespace
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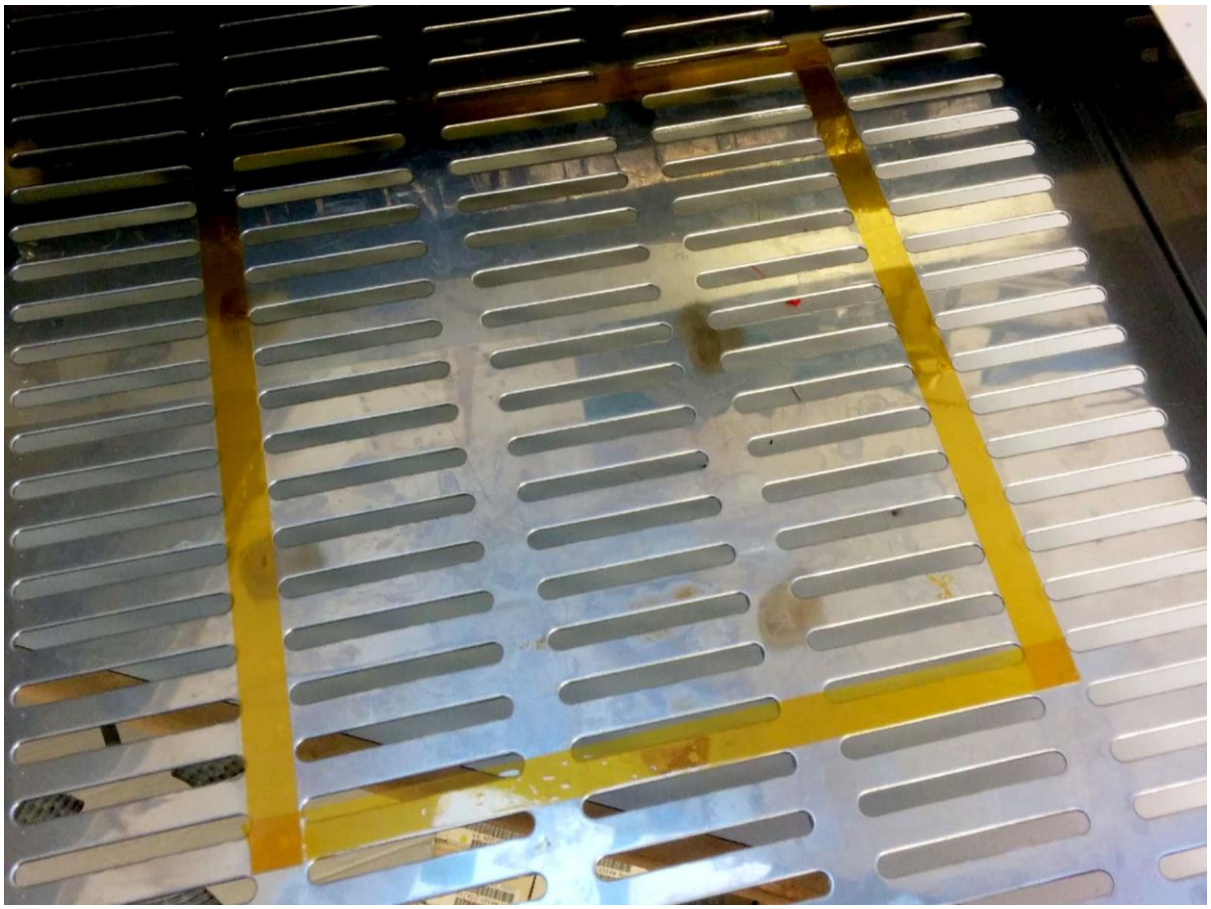
T-962A Infrared IC Heater

Important notes:

1. This oven is best suited for lead solder that melts at 180°C. The oven will not get to the higher temperature required for lead-free solder, 245°C. Lead-free soldering may result in dry joints.
    a. If using lead-based products, where suitable protective gloves. Latex gloves are appropriate.
2. The temperature profile on the LCD screen is not an accurate representation of a PCB placed on the tray.
3. Be careful when opening/closing the tray to prevent components moving on a PCB that have not been soldered.
4. The working area of the tray has been clearly marked with high temperature (Kapton) tape. Ensure PCB is within the marked area. Do not remove this tape (although replace if worn).
5. It is advisable to clean a PCB with an isopropanol alcohol (IPA) fluid bath with a stiff bush to remove residue and solder balls that sputter when the solder paste melts. To the human eye, these may not be visible, so inspect with a suitable magnifier.
    a. IPA is a volatile solvent, so it will evaporate if left in an ambient temperature environment.

b. Where suitable protective gloves when handling solvents. Latex gloves are appropriate.



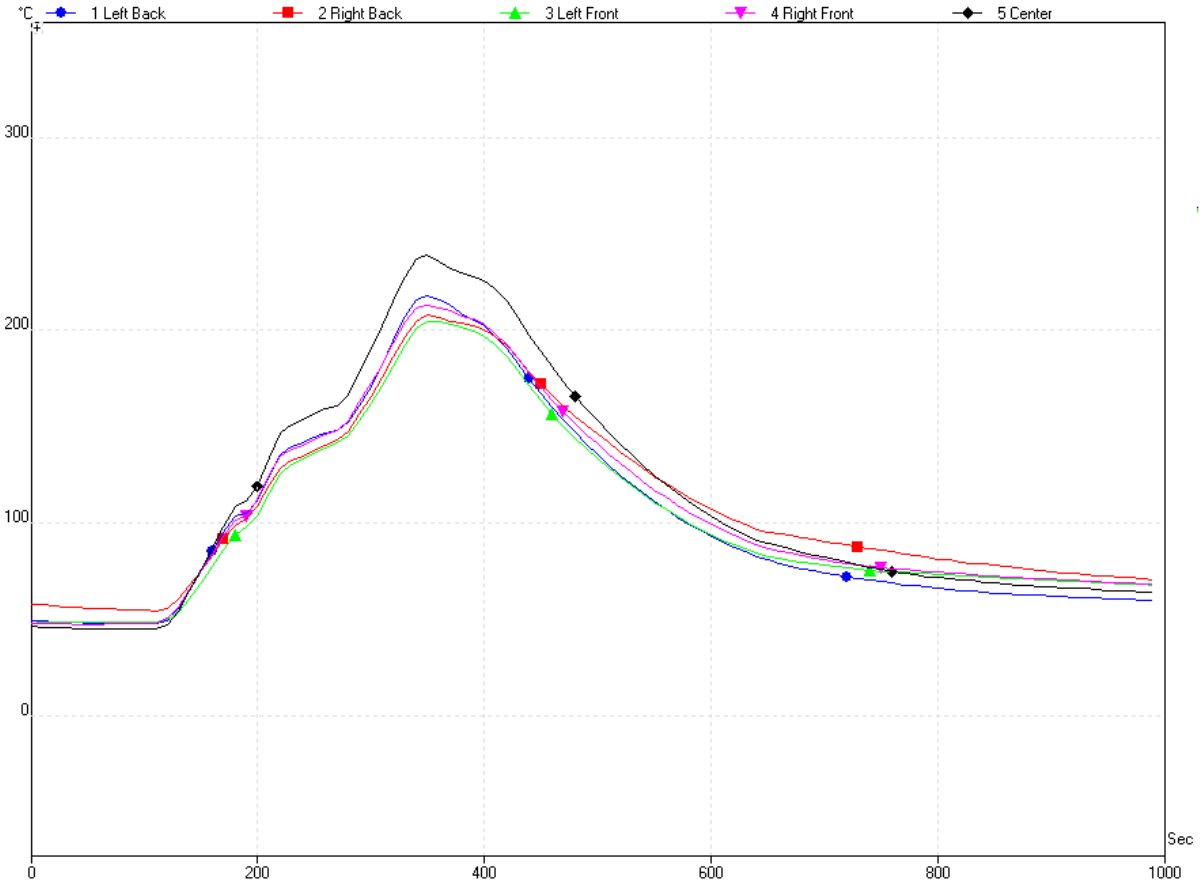
PCB must be placed with Kapton tape area.

To aid temperature cooling, the T-962A Infrared IC Heater should be raised to allow heat to vent when the system is in its cooling phase.

Raising the unit by at least one inch is sufficient.

T-962A raised at edges

Actual Measurement Data:



T-962A Tray temperature profile

Notes:

1. The centre of the tray is the hottest area. The maximum temperature of the extremities of the Kapton tape are is approximately 205-217°C and the centre being 239°C.
2. Graph on unit is not accurate.
3. Temperature measured by T-962A is not accurate.
4. Outside of the Katpton tape area, the temperature is not suitable for reflowing electronics.

Description	Time	Temperature	Comment
Temperature rise	115s	Ambient to 146°C	Board and components heating
Temperature stability	115-180s (65s)	148°C±2°C	Thermal equilibrium
Temperature rise to melt lead-based solder (189°C)	180-215s (35s)	150-189°C	Solder paste becomes fluid
Temperature to melt solder	215-315s (100s)	Maximum temperature : 210°C±6°C	Solder is solid
Temperature cooling	315-800s (485s)	Temperature at 800s: 67°C	Ambient takes a long time

Temperature profile notes