



Wave Soldering of Calex Power Converters

Application Note 11

The Process of soldering Calex DC/DC converters into assemblies, or installation into motherboards, can be handled by the conventional industry methods.

Parts used by Calex will withstand normal preheat temperatures associated with standard soldering operations. The most common method for mass soldering of the power supply to a mother board is “wave soldering” and should be profiled approximately as follows.

1. The solder pot should be set at 500° F and the conveyor should have a speed preset to insure that each section of the bottom side of the assembly dwells in the molten solder wave for 3 to 4 seconds. It is imperative that a correct temperature profile be sued, not only to reduce solder defects but to eliminate any chance of thermal shock on the components.
2. The motherboard should attain a top side preheat temperature of 220° to 240° F before it enters the solder wave. The temperature change between the preheat and the soldering zones should be minimized.
3. The cooling rate after solder wave should be similar in drop in temperature to the preheat rise.

Notes on Wave Soldering Calex Power Converters.

The Calex through-hole pins are 100% Matte tin plated (unless specified otherwise) and are easily soldered if all process parameters are met. However the fluxing must be closely monitored and controlled to maintain minimum solder defects.

In controlling the solder profile, preheating of the assembly in two or three stages minimizes the thermal shock damage and increases the end life of the unit.

If the power converters are to be hand soldered into the motherboard, a temperature controlled iron of 700° F (MAX) is recommended.

While the Calex power converters generally spend about 3 seconds in the wave, they are designed to withstand soldering temperatures of 500 ° F for up to 10 seconds.

If reflow or non-conventional methods are to be used to solder the power supplies to the motherboard, contact Technical Support.

Calex converters are not hermetically sealed, and should not be immersed in liquid.

