Recommended High Volume Processing of Surface Mount Devices

WJ Communications provides surface-mount devices which are capable of withstanding the maximum temperature reflow profile shown in Figure 1. The profile includes a preheat and cool-down rate of 2°C/sec and recommends a maximum reflow temperature of 225°C for a maximum time of 10 seconds. The profile is consistent with typical convection reflow profiles.

WJ Communications recommends the use of low temperature solders such as Sn63/Pb37 or Sn60/Pb40 whenever surface-mount assembly is performed. This will minimize thermal exposure to all components during assembly. Higher temperature solders which contain silver typically do not reflow as well as the low temperature solders and run the risk of silver migration in wet environments.

Reliability of the solder joint attach of surface-mount parts to the circuit-card assemblies is directly related to the land pattern that is used. WJ Communications recommends the use of the land patterns shown on the particular product data sheets to ensure that a proper amount of solder is available at every joint. The amount and location of solder at the lands is directly related to the reliability of the solder joints.

PLANAR SURFACE-MOUNT DEVICES

WJ Communications has performed extensive solder joint reliability testing of our planar-mounted (leadless) devices. WJ Communications highly recommends the use of the land patterns shown on the particular product data sheets and that at least 0.008 inches (0.2 mm) of solderpaste be applied to the board; this corresponds to 0.004 inches (0.1 mm) of final solder height on the assembly.

LEADED SURFACE-MOUNT DEVICES

WJ Communications has created a family of leaded surface-mount devices which are designed for use in high volume surface mount assembly.

Leads lift the bottom of the device above the circuit board and enable the devices to be easily cleaned, inspected, and reworked. Leads also offer compliance and therefore reduce stress in the solder joints.

Leaded parts are coplanar to within 0.004 inches (0.1 mm).

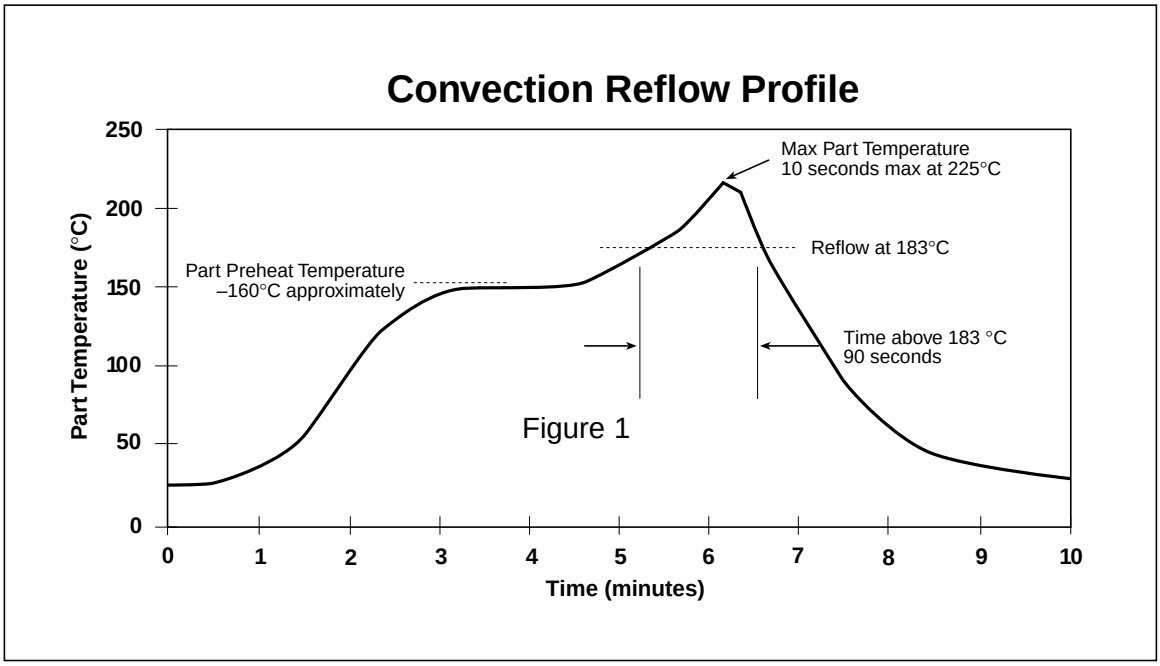

Figure 1