SUPPORT NOTE

SN-106

PCB Discoloration During Wave Soldering

Introduction

In late December of 2001, Reedholm switched wave-soldering vendors. Along with the new company being in much closer proximity to Reedholm's Georgetown, Texas facility, the new vendor uses techniques that result in higher quality PCBs. Board warpage has been significantly reduced using the new process. Another improvement with the new process is that the boards are baked at 150°F, or 93°C, to drive out moisture prior to wave soldering. This important step is done since trapped moisture could otherwise boil out through the plated through holes during wave soldering leading to unreliable solder junctions.

Cosmetic Problem

Some modules have symptoms of delamination using the new process. This results in a whitish appearance under the surface of the modules. The appearance is more pronounced on some boards than others, and does not occur at all on other modules. Fortunately, there is no loss of structural or electrical integrity on the affected modules. The reason this is true is that the softening temperature for epoxy boards is upwards of 150°C, and polyimide does not flow until well above 200°C.

Conclusion

Any customers receiving boards with the cosmetic blemishes will not have any degraded instrumentation performance with accuracy, repeatability, or reliability.