

Project Summary:

Design Review of Heater Control

DfR Solutions was asked to perform a design review of a heater control used to prevent condensation in commercial freezers. The comprehensive review included assessing reliability goals, defining use environment, analyzing component quality/reliability, supplier board design review, and analysis of connectors and conformal coating. As a result, DfR Solutions was able to help the climate technology manufacturer to develop a product specification so that a highly reliable, highly manufacturable product could be produced in bulk by new suppliers.

Keywords: lot qualification, lifetime, design for manufacturability, design for reliability, critical to quality parameters, CTQs, solder trails, humidity sensor board, temperature-humidity bias, THB, step stress test, virtual qualification, accelerated life testing, ALT, failure analysis on line and field returns, warranty period, transformer, custom built parts, wire insulation, hi-pot testing, electrolytic capacitors, early wearout, excessive leakage, flex crack, depanelization, certificates of compliance, eliminate hand soldering, gold plating, gold embrittlement, dew point sensor, digital signal processor