

熱疲労シミュレーションによる鉛フリーはんだ ヒートサイクル試験期間の適正化

横田 康夫*, 渡辺 正樹**

Optimization of Heat Cycle Test Time of Pb-Free Solder by Thermal Fatigue Simulation

Yasuo YOKOTA* and Masaki WATANABE**

*株式会社松下電器産業 PAVC 社 AVC 開発センター (〒571-8503 大阪府門真市松葉町 2-15)

**株式会社松下電器産業 PAVC 社映像ディスプレイデバイス事業グループ (〒567-0026 大阪府茨木市松下町 1-1)

*AVC Development Center, PAVC Company, Matsushita Electric Industrial Co., Ltd. (2-15 Matsuba-cho, Kadoma-shi, Osaka 571-8503)

**Visual Products and Display Devices Business Group, PAVC Company, Matsushita Electric Industrial Co., Ltd. (1-1 Matsushita-cho, Ibaraki-shi, Osaka 567-0026)

Abstract

Recently, several Pb free solder are introduced on the electric appliance rapidly. But, for the co-existing of enough quality and short development L/T on the electric appliance, it become doubtful whether the existing reliability standard of heat cycle test based on the Sn-Pb solder can be used or not. Therefore, in this paper, in order to reconsider the existing standard, thermal fatigue simulation of Pb free solder with Anand model was carried out and the necessary and minimum heat cycle time for Pb free solder was calculated. In addition to that, the acceleration factors for several solders are compared. As a result of that, it became clear that the necessary and minimum heat cycle time for Pb free solder could be shortened than that of Sn-Pb solder and that the existing reliability standard based on Sn-Pb should be changed.

Key Words: *Pb Free Solder, Heat Cycle Test, Reliability Standard, Development L/T, Thermal Fatigue Simulation*