アルマイト層を利用した高熱伝導性プリント配線板

渡辺 充広*, 石田 卓也*, 杉本 将治*, 水谷 里志**, 本間 英夫*,***

High Thermal Conductivity Printed Circuit Boards Using Anodized Aluminum Layer

Mitsuhiro WATANABE*, Takuya ISHIDA*, Masaharu SUGIMOTO*, Satoshi MIZUTANI** and Hideo HONMA*,***

- *株式会社関東学院大学表面工学研究所(〒239-0806 神奈川県横須賀市池田町4-4-1)
- **立山電化工業株式会社(〒933-0806 富山県高岡市赤祖父546)
- ***関東学院大学工学部(〒236-8501 神奈川県横浜市金沢区六浦東1-50-1)
- *Kanto Gakuin University Surface Engineering Research Institute (4-4-1 Ikeda-cho, Yokosuka-shi, Kanagawa 239-0806)
- ** Tateyama Denka Co., Ltd. (546 Akasofu, Takaoka-shi, Toyama 933-0806)
- ***Faculty of Engineering, Kanto Gakuin University (1-50-1 Mutsuura-Higashi, Kanazawa-ku, Yokohama-shi, Kanagawa 236-8501)

Abstract

The high performance of electronic devices, such as personal computers and cellular phones, has led to an increase in the heat generated by their electronic parts. In printed circuit boards (PCBs) with many electronic parts we encounter higher heat radiation than ever before, and at the same time we require higher reliability. At present, high thermal conductivity PCBs with metal and ceramics substrates are used. In this study, we were attracted to anodized aluminum film for its non-conductivity and high thermal conductivity properties. By using the anodized aluminum film as an insulating layer, we succeeded in making a PCB with excellent non-conductivity and high thermal conductivity.

Key Words: High Thermal Conductivity PCBs, Anodized Aluminum Treatment, Re-anodic Oxide Coating Treatment