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論文

プリント配線板用絶縁材料の空間電荷挙動に対する湿度と温度の影響

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Effects of Humidity and Temperature on Space Charge Distribution Profiles in Printed Circuit Board Insulations

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Abstract

The properties of bulk insulation in printed circuit boards (PCBs) have become even more important, especially for those with a multilayered or embedded structure. In particular, the spatial distribution of internal charge carriers, mainly due to ionic impurities, is thought to affect the reliability of bulk insulation. Therefore, the effects of humidity and temperature on space charge distribution profiles in a five-layered composite of aramid paper and epoxy resin are studied in this paper. More charge carriers are induced at higher temperatures with humidity. A relative humidity of 55% is high enough to induce a saturated amount of charge carriers in the present samples at 40°C.

Key Words: *Printed Circuit Board, Space Charge, Pulsed Electroacoustic Method, Aramid Epoxy Composite*