

鉛フリーはんだのイオンマイグレーション劣化の要因解析

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Factor Analysis of Electrochemical Migration Deterioration of Lead-Free Solders

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Abstract

The life time due to electrochemical migration of lead-free solders was evaluated by the water drop test method. In this case, the test results was evaluated separately for at the beginning time and the time until the short-circuit. As a result, lead-free solders became long-life time from lead eutectic solder in many cases according to the forecast. However, the life time of lead-free solders is reversed with lead eutectic solder to which the ionizing of lead was suppressed in the situation with dirt matter. Moreover, when the surface of copper has been exposed, the migration is generated from this copper. Therefore, it is necessary to note these factors. The water drop test is effective as the test method by which a relative life time comparison and deterioration in the state with dew.

Key Words: *Lead-Free Solder, Electrochemical Migration, Reliability, Water Drop Test Method, PWB*