RoodMicrotec
powerful solutions

Number FA01 – May 2017

Failure Analysis Inside

Failure Analysis Inside, News from the RoodMicrotec Technology & Failure Analysis

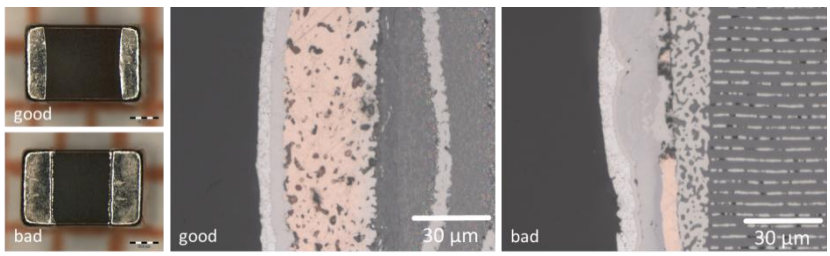
Welcome to our first Failure Analysis newsletter! From now on, we will inform you about current developments in failure analysis and uncommon or surprising failure mechanisms. In each FA Inside, we will present to you one of our analysis methods and one of our Team members. Furthermore, we tell you how and where to meet us at conferences or fairs.

Ionic contamination tests

Ionic contaminations of printed circuit board assemblies have become a serious problem in the automotive industry. Impure circuit boards or imperfect cleaning steps and flux residues can lead to field failure. By measuring the ionic contamination of PCBs or PBAs, we offer a quick and uncomplicated characterization of your materials. Don't hesitate to ask us if you are interested!

Case of the month

One of our most surprising cases in 2016 was the discovery of supposedly fake multilayer ceramic chip capacitors (MLCCs). RoodMicrotec was commissioned to investigate strange failures of certain batches of MLCCs, while other batches from the same product remained normal. The only difference between good and faulty MLCCs was the type of packaging, e.g. 10000 pc/reel and 3000 pc/reel. Our analysis showed that the two types had different terminal metallizations, which was already optically visible. By performing metallographic cross sections, we found completely different metallization layers and, in case of the bad MLCCs, damaged inner copper layers and unregular internal electrodes.



smthybridpackaging

Visit us at the SMT Hybrid Packaging, taking place from 16th – 18th of May in Nuremberg!

We are located in **hall 4, booth 4-239A**

Get 15% discount on our tutorial on May 16th: „Keramikkondensatoren: Ausfälle durch mechanische Überlastung, geeignete Abhilfemaßnahmen und Untersuchungs-möglichkeiten als Präventivmaßnahme"

If you are interested, send an e-mail to dorothee.rau@roodmicrotec.com or call us on +49 711 86709-11 and we will be happy to assist you.

In the press

In a recent publication in the magazine „Productronic", our Failure Analysis Engineers Dr. Stefan Borik and Gerhard Bayer shed light onto the phenomenom of copper ion migration, resulting in conductive anodic filaments (CAF). This process frequently leads to failure of electronic assemblies and is hard to detect. In the article, we present a reliable verification routine. You can find the publication here!

Get to know us!

Björn Hoffmann is a Physicist and Materials Scientist, he joined RoodMicrotec as a Failure Analysis Engineer in July 2016. Recently, he successfully completed his PhD thesis about cutting edge electron microscopy methods. His expertise in modern microscopy techniques and materials analysis strengthens our failure analysis capabilities and he has quickly become a valuable member of RoodMicrotec. In his free time he is an ambitious landscape and astro photographer.