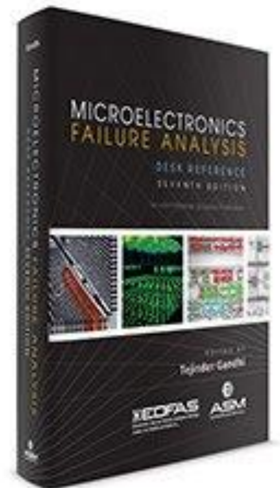
Frontside Sample Preparation

Author: Jim Colvin

Abstract



The orientation of the devices within a package determine the best chosen approach for access to a select component embedded in epoxy both in package or System in Package and multi-chip module (MCM). This article assists the analyst in making decisions on frontside access using flat lapping, chemical decapsulation, laser ablation, plasma reactive ion etching (RIE), CNC based milling and polishing, or a combination of these coupled with optical or electrical endpoint means. This article discusses the general characteristics, advantages, and disadvantages of each of these techniques. It also presents a case study illustrating the application of CNC milling to isolate MCM leakage failure.

Reference

Microelectronics Failure Analysis Desk Reference, Seventh Edition Tejinder Gandhi, editor; pp. 144 to 152. Copyright © 2019 ASM International®. All rights reserved. DOI: 10.31399/asm.tb.mfadr7.t91110144

Download or Order Hard Copy at:

https://dl.asminternational.org/technical-books/book/87/chapter/2047944/Frontside-Sample-Preparation