



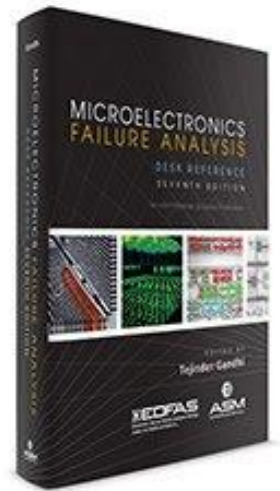
Backside Preparation & Optics

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Abstract

This tutorial will assist the analyst in making decisions on backside thinning and polishing requirements and hopefully dispel many of the associated myths and assumptions. Many have heard Analysts and Scientists in our field refer to sample preparation as “Black Magic” stemming from a lack of understanding for the complexities of sample preparation.

Leading to an oversight of the nearly infinite combinations of modules, packages, die sizes, and material compositions combining metal alloys, epoxy with fillers, glass, die attach, glass fibers, ceramic, silicone and so on. This is further complicated by Coefficient of Thermal Expansion (CTE) mismatch of the layers and the need to polish dissimilar interfaces with the same expected surface finish. Removing a significant portion of the die substrate will usually affect the stability of the package. Proper planning of the entire backside analysis strategy is a requirement that is frequently trivialized at the peril of the project, as will be shown in subsequent sections.



Reference

Microelectronics Failure Analysis Desk Reference, Seventh Edition Tejinder Gandhi, editor; pp. 153 5o 179. Copyright © 2019 ASM International®. All rights reserved. DOI: 10.31399/asm.tb.mfadr7.t91110153

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