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64-to 256-Megabit Reticle Generation: Technology Requirements and Approaches: A Critical Review, edited by Gregory K. Hearn, Proc. of SPIE Vol. 10273 (Vol. CR51), 1027301 · © (1994) 2017 SPIE
CCC code: 0277-786X/17/$18 · doi: 10.1117/12.2285109

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Preface

Often the success of a new semiconductor device is determined by the level of understanding between reticle makers and reticle designers and users. With design rules and customer requirements advancing so rapidly, mask engineers and IC product engineers need to fully recognize each other's needs and challenges.

To address these issues this Critical Review conference was held on 24 September 1993. The goal was to enlarge the degree of understanding of the overall design, production, and certification processes for photomask technology. The central theme of the conference was the series of requirements for current and future devices as expressed in the SIA roadmap. The first paper, by Gordon McMillan of SEMATECH, outlines these requirements in detail and the subsequent twelve papers describe the impact of these requirements on various stages of reticle design, manufacture, and certification. Each paper was invited and each speaker is a widely recognized expert in his or her respective field.

A special presentation by Frank Schellenberg of Stanford University delves into the differences in approaches to phase-shift mask technology development in the United States and Japan. It draws attention to the fact that technology development strategy can be an important issue, particularly for future products.

The conference was the first of its kind and the unusually high attendance signals the importance of a broader understanding of the technology. The success of the conference is largely due to the efforts of the speakers, the members of the executive advisory committee, the organizing committee, and to Bob Naber, the conference cochair.

Gregory K. Hearn