SESSION III

Manufacturing I

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As Gallium Arsenide technology continues to gain acceptance in the commercial arena, the most critical issue is manufacturability since this determines cost and product availability. In this session we focus on a number of important manufacturing issues and techniques. The first paper presents an overview of bump technologies for flip-chip assembly of GaAs devices. This technique can dramatically reduce package size as well as package parasitic that often limits device performance, especially at high frequency. The second paper describes the manufacturing of GaAs based solar cells, from epitaxy to system applications. The third paper presents a common-sense approach to cost reduction by shrinking the dice area of GaAs chips. Finally, the last paper describes the challenge of manufacturing high performance X-band power MMICs in a process that combines PHEMT technology, thin (50 micron) substrates and Reactive Ion Etched (RIE) via holes.