

Typical Failure Mechanisms of Microsystem Technology

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Abstract

The paper is furnishing details about the failure mechanisms (FMs) that are specific to microsystem technology (MST), including corrective methods for diminishing or even avoiding the failures. The FMs are grouped according to the possible failure risks, arisen at various process steps, such as: quality of materials, design and fabrication, operational and environmental stresses. Moreover, some FMs (stiction, fracture, mechanical and thermal fatigue), which are specific to MST and most frequently encountered, are detailed, including up-dated corrective methods.

Keywords: Microsystems, technology, reliability, failure mechanism.

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