

Device Physics Matters in RF Designs and Manufacturing

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Abstract

This presentation covers high density planar 2.5D and 3D package challenges and proposes the elements of best designs and production of RF and microwave systems. Reliability is built in the systems by taking numerous device physics constraints into account. Many of these such as activation energy, electro migration, hot carrier injection, dissimilar metals and whisker growth need to be taken in the sound designs that incorporate the good RF design practices. The production considerations incorporate overall the best value, manufacturability, quality, parts obsolescence, supply chain and support through the life of the systems. These issues will be covered and show that implementing these right measures leads to overall value and a lower total cost ownership.